

# AMERICAN JOURNAL OF EDUCATION

AND NATIONAL EDUCATOR.

UNIVERSAL EDUCATION—THE SAFETY OF A REPUBLIC.

XXVII.

ST. LOUIS, MISSOURI, AUGUST 9, 1894.

No. 8.

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And National Educator.

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BUT few people realize that the "University of the State of Missouri" has a larger interest-bearing endowment than any State University in the United States, with only one exception!

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YES, "Hold the book wide open that all may learn to read. Let the teacher be there—attentive, vigilant, kind, faithful and humble. Light up the brain, inflame the mind, extinguish selfishness—and thyself give the example. The poor and the ignorant are privation: be thou there, to teach, irradiate. They need thee—thou art their great thirst. These more than six millions of illiterates, plead with the prayer of their darkness and helplessness for light and the power intelligence brings to them. Let us answer—and be light and hope and strength and safety and power to them, and to the State—in all our work.

THE soul of the teacher, which shines through the eyes, becomes visible to the pupil—and, if strong, it draws him with an irresistible and invisible power into all good and away from evil.

You say some of our teachers are weak. Admit it. You who criticise take hold, and do better than they do on thirty dollars a month only—three months in the year. Criticism is cheap, and cold, and mean, and cowardly—unless the critic is ready to take the place of the criticised and to do more and better work.

YES, of course the "percentage of illiteracy is enormous" among the "slum elements" of our great cities. This element is as dangerous and expensive as it is "enormous." Ignorance costs.

THE educators, taxpayers and the rest of the people of the commonwealth of Illinois, will welcome with great cordiality the new President of the University of Illinois, Andrew S. Draper. He is one of the educators who not only knows books, but what is of vastly more importance in an administrative office to insure success, he knows the world and its needs outside of and beyond books. Books stop necessarily with some past utterance of genius and of science, and while their garnered wisdom is of great value, the educator of to-day must drink from the flowing stream as well as bathe in the hewn tubs of the ancients. President Draper, so far in his career, has shown an ability that always rose to the need. Every good thing in the whole Northwest will be strengthened, uplifted and inspired by the presence and life among us of Andrew S. Draper.

BRO MOWRY had to plead hard at the meeting of the N. E. A. to let the "Committee of Ten" down easy. Some of the slim members of the fraternity were disposed to crucify them. It is a big dose to take, but it is a good one, and if taken and well shaken it will promote both mental and moral health.

NEVER were so many people present at the public meetings held for the discussion of general topics of interest in educational affairs. Elegant receptions are given members of the institute by leading citizens more frequently than ever before in all the States.

No doubt but the report of the "Committee of Ten" puts some of the slow teams at a faster gait than is usual, but it won't hurt anyone in the long run. It is solid, strong, and looks to more progressive work. Better get ready for an advance all along the line.

WHAT a colossal dagger-thrust these anarchists made at the life of individuals and the life of the State. How monstrous to strike car-load after car-load of innocent women and children—some going to their homes after long absence; some going to bury their dead; others on missions of love and of mercy—held in the vengeful grasp of hate hour after hour and day after day. Barbarism decapitating civilization—this is ignorance, this is anarchy. Intelligence and obedience to law is preferable. Our schools insure the latter.

ONE step beyond justice is anarchy, no matter by whom it is taken.

WHAT vengeful, unchained fury anarchy would inaugurate—has inaugurated already in this, as well as in other countries.

OUR schools train all the time fourteen millions of children into obedience to law.

THE street school—the saloon, the school of idleness—turn out anarchists. The common school with its training turns out law-abiding, productive citizens. Ignorance and anarchy costs. Education and intelligence with its safety, passy.

WHAT awful tragedies ignorance and anarchy perpetuates! What treasures of life and wealth anarchy wastes! What a lesson recent events teach of the value of the training our common schools give. Anarchists do not breed in these schools.

WE plead for clemency for the anarchists. They have not been trained in our system of common schools; they do not know the value nor the responsibilities of citizenship.

EVERY man belongs to two families; his own and the other family of humanity.

Both must be considered; for this other family of humanity contributes more to the life and happiness and the wants of the single individual than any single individual can contribute to humanity. It is now each for all, and all for each. Anarchy reverses and destroys all this. Anarchy is death to society.

### THE DAWN OF A NEW ERA.

But dawning day new comfort hath inspired.  
—Shak.

PROF. BUSHROD W. JAMES, in "The Dawn of a New Era," published by Porter & Coates, of Philadelphia, says: "The theory of women's mental incapacity, in comparison with that of the physically stronger sex, has been passing through a consistent disintegration for ages, until to day it is only held together by a perforated tissue, too frail to resist much longer the pressure of honesty and truth, which acknowledges that England's crown was never more nobly worn than by her queens, two of whom, at least, Elizabeth and Victoria, have done more for the permanent good of their nation than any two kings who have ever reigned there.

And since the doors of science have been opened to women they have proven how far from inferiority they can become in branches to which they were once most determinedly denied admittance, as well as in the gentler art.

So far have they advanced in every direction that has been opened to them, that there can be no possible doubt that they will appreciate and act equally well for the good of their country when they receive the right so long withheld. I think the day has already dawned which enlightens the really smaller number of the population of the United States to see that it is unjust to require women to submit much longer, without question, to laws in which all their rights are involved. Without doubt the franchisement of women would be followed by the confusion and apparent misfortune which appear in the train of any great innovation; but correct legislation will find in them a thoroughly law-abiding element which must strengthen the government in which their choice may have a part. Their presence will require a purer atmosphere at the ballot-box, as well as in every department to which their rights will admit them; the better class will so act in their new station, and the respectful courtesy which they will command by their unostentatious and unchangeable integrity, will so arouse a spirit of emulation, that it will do more toward the elevation and refinement of all

others than can be realized by those who are inclined to resist the further progress of the equalization of men and women in genuine politics as well as in society and art.

In this fast receding century the new golden era of purer government, better legislation, more faithful officers, more consistently interested citizens, extended commerce, higher, broader education, equal rights to all, and insured prosperity, is shedding its glorious refulgence into the very innermost tabernacle of the Nation's heart! The light will destroy the germs of evil and cheer into brilliant, active and majestic power the spirit of liberty, independence and honesty, upon whose wings our country will mount above the debris of all impure and misdirected legislation."

### A FRIEND.

All friends shall taste  
The wages of their virtue.  
—Shak.

YOUR teacher is your friend.

If you will, you shall be strengthened by all their strength and hope and knowledge. Mrs. Browning once said to Charles Kingsley, "What is the secret of your life? Tell me, that I may make mine beautiful, too." The response was very brief but full of meaning: "I had a friend." That answer revealed one of the motive powers, one of the sources of inspiration, one of the elements of power, whereby and whereon his noble life-structure had been erected. Many another man or woman, looking backward or forward, may well say: "I have had a friend who believed in me, cheered me in depression, counselled me in perplexity, helped me over many a rough place, admonished me in weakness and danger, enlightened me in ignorance, sympathized with me in sorrow, and by all the manifold and blessed ministries of human affection, helped me to struggle on and strive to realize my ideals. But for my noble and inspiring friendships I could never have got on in life to this point that I now occupy; nor could I with hope lift up my head and aspire for greater things to come.

DON'T hurry over the qualifications laid down by Pres't Draper of those "fit to teach school." These qualifications are all right.

ANARCHY is conscience, is reason, is human liberty trampled upon; it is the torch of truth and love and justice reversed, extinguished. This is what *ignorance* among the masses means in this country. In the face of the facts of anarchy, in July, 1894, in this country arguments for the establishment, maintenance and extension of our common school system seem like an impertinence. Our common schools train to obedience to law, to order, to industry, economy, safety, strength, power, salvation.

Good crops, post-office receipts, orders for all kinds of goods, better earnings on the railroads, all these indicate better times—a revival of business, more money, better schools, longer school terms, more adequate compensation for the teachers and more ability in the school room—all this goes to show we are entering on a new era of prosperity, intelligence, wealth and happiness. The croakers and anarchist and disturbers had better retire. The people are more hopeful and more cheerful, as they ought to be. Let our teachers inaugurate more meetings of the people. Get up reading circles, debating societies, singing schools, and keep all employed and happy. What a world of work there is to be done for and with the people.

SOME plain truths are stated by our correspondent in regard to the lack of proper knowledge and proper training on the part of the graduates of our *eleven* medical schools in St. Louis. We think an examination into the facts in the case would amply justify the statements made by Chancellor Chaplin, and instead of being censured, he should be commended for his fearless exposure of these frauds. Chancellor Chaplin knows that the health and the lives of the people are put in jeopardy by these ignorant quacks with their diplomas as an M.D. Our legislature has already taken some steps in this direction, but more needs to be done to prevent Tom, Dick and Harry to organize and conduct and graduate "Drs." from the plow, after attending two courses of cheap lectures, of six months each. It must be evident to any person of careful reflection that such graduates cannot, in the nature of things, "know what the *science* of medicine is."



## THE EGYPTIAN ROUTE.

"The juice of Egypt's grapes shall moist his lips."  
—Shak.

THE Cairo Short Line Railroad has been pouring light, intelligence, industry, economy, regularity and all the other concomitants of our new Christian civilization, by the train-load, into Egypt a half-dozen times a day for the last twenty-five years.

It begins to count. The earth all along the line of this popular route is burdened with its wealth of wheat, and corn, and cattle, and stored under its surface with a supply of coal in its cellarage practically inexhaustible.

It begins to look as if the people of modern Egypt were to become like the ancient Egyptians, "*the monumental people of history*." Possibly the managers of the Cairo Short Line railroad in naming this "The Egyptian Route," builded better than they knew.

The City of Cairo has become famous for its splendid system of common schools and for the large classes it graduates. When the State Teachers' Association, representing over 20,000 educators, scanning closely its most representative man from Galena to Waukegan, from Quincy to Paris, from Rockford to Cairo—they go to Cairo in Egypt and select Supt. T. C. Clendenen, of the Cairo public schools, as their standard-bearer—an honor alike to Cairo, to the teachers and to the State. When a great party would select the most able, and the most available candidate, to lead it to victory and to hold aloft its banner untarnished, they go to Egypt and nominate and hope to elect S. M. Inglis to preside over the education of nearly a round million of children—realizing the fact, that what we put into the first of life we put into the whole of life.

The people of "Egypt," in addition to their other institutions, have just taken hold to enlarge the function of a seminary, not only in name but in fact, and have chartered and established the "Creal Springs College and Conservatory of Music" at Creal Springs, Ill., elected the Board of Trustees, selected a part of the faculty; and already money, bonds, land, and other material aid has begun to flow into its coffers. The people of Southern Illinois are able to endow it with money enough to enable it to meet the demands of that section of "Egypt."

People are buying homes in Creal Springs because of the facilities afforded to educate their chil-

dren. So thorough has been the course of study pursued there that the President has been unable to answer calls for the well-trained students in the Normal department, who are needed to carry forward and maintain the school system of the State.

Some of the leading and largest wholesale houses in the City of St. Louis draw their most competent book-keepers from one of the departments of this college.

Creal Springs is becoming widely and favorably known, too, as a health resort. Certainly, the waters from the several springs do perform wonderful cures. Dr. Curtis Brown, who is not only a graduate of the Missouri Medical College, but who, in addition to this, took a post graduate course at the Rush Medical College in Chicago, is the physician and surgeon in charge, giving his whole time and attention to the care of the guests from all parts of the country. We noticed on the register of the Ozark Hotel lately names of people from several different States, as far East as Massachusetts and as far West as Texas.

Dr. Brown, in addition to his own eminent ability and experience, has access every day, of course, to the diagnosis of disease made by the leading physicians of the country, sent him as the physician and surgeon in charge of the Springs, through the patients, who flock thither for their curative properties.

Some one, on hearing the virtues of these Springs highly extolled for their qualities in reducing "obesity," both of body and will, registered at "The Ozark" the names of "Grover Cleveland" and "Baby Ruth," after Cleveland's letter to Wilson. It was rather an anticipatory registration, probably, but it confirms the idea that "the Egyptians are the monumental people of history" in modern, as well as in ancient times.

## SUFFICIENT.

Whom our full senate call, all in all, sufficient.  
—Shak.

HERE is a copy of a letter, and here is the kind of a boy described that is everywhere wanted, possessing the qualities "to carry him along," not only in San Francisco, but in Boston, New York, New Orleans, St. Paul or any other city in the world:

Office O'Connor, Moffatt & Co.,  
San Francisco.

Mr. M. Babcock, Dept. Supt. of

Schools, San Francisco, Cal.—

DEAR SIR. In reply to your inquiry as to the kind of boys we like to employ, please be advised that we look upon cleanliness and neatness in personal appearance as the prime qualification; then they must be civil, obedient, move quickly and noiselessly, and when told to do anything do it correctly and at once. We find that these qualities in a boy are always backed by intelligence sufficient to carry him along. Very respectfully,

O'CONNOR, MOFFATT & CO

WE have it at last—the study of geography treated topically. We have been most urgently pressing this method upon our teachers and educators for more than a quarter of a century. Prof. A. E. Frye, in his new *primary geography*, published by Ginn & Co., of Boston, has made a hit. In manner, matter and illustration, this work has never been approached before. The pictures are works of art. It is alive on every page, and teachers will welcome the change from dry details, out of date, to a study of the homes of the people and the races.

Life, plants, and animals, belts of heat and vegetation, and not "mere zones of light," are made the basis of this new departure.

The president of a Board of Education in a neighboring city was so anxious to secure this book after looking it over that we could scarcely keep it long enough to make this brief and imperfect notice. We have here a related topical method of teaching geography. Prof. Frye and the publishers are to be congratulated, as well as the students of geography all over the United States on this new textbook and its new departure.

## GOOD FOR DIGESTION.

IN the "Lighter Vein" department of *The Century* we find these "solid chunks" of wisdom which the readers of this journal will enjoy having at hand—for use—if occasion occurs. Berry Benson and *The Century* are both good to know and to have by you:

A man found fault with the world, the way it was made, and the way it was managed. Among the rest, he said that his nose was too long, and, to mend matters, he cut off the tip of it. But now, finding his nose too short, he bewailed to a friend that he could not again make it longer. Said his friend,

"It is much easier to find fault than it is to make either a world or a nose."

A sailor, having quitted the sea, and settled down to an inland life, was wont to tell his neighbors of the many strange lands, strange peoples, and strange customs he had seen. All of which being outside their own knowledge and experience, they touched their foreheads and winked at one another.

Afterward there came among them a man who had studied the stars. He told them how these stars were great worlds, and how it could not reasonably be otherwise than that in these strange worlds were other strange people with strange customs. Again they touched their foreheads and winked.

And the sailor winked with the rest.

A child, a boy, a man, and a giant went into the water. The child having gone as far as he could go, the boy went farther, and said, "I stand upon the bottom." But the child would not believe it. The man went still farther, and said, "I stand upon the bottom." But the boy would not believe it. Then the giant went farther yet, and said "I stand upon the bottom." But the man would not believe it.

Just beyond our own depth lies the inconceivable.

These three contended which was happiest, Sleep, Waking and Death.

Death said, "I have no bad dreams."

Sleep said, "I have good dreams."

Waking said, "I am."

A child was born rich. He was to know every sane pleasure. He was to be made wise, and good, and great.

The child was stolen. He was brought up in the slums. He tasted every ill of poverty. He became a vagabond and a thief, and he was hanged on the gallows.

"THE backbone of higher education, as of all right education, is the ability to do something," says President G. S. Hall in the *Forum*. Do we all train pupils to do something effective?

ANARCHY is the battle of the blind leading the blind. It is ignorance bearing its legitimate fruit of selfishness and ruin.

## THE AMERICAN SCHEME OF STATE EDUCATION.

### I.

ALL institutions are educational, each in its own peculiar way. In the family the influences converge upon the subtler social relations and the qualities developed through these relations. Here the underlying principle is, above all, that of mutual esteem, and the central result in the working out of that principle through the evolution of the race has been a gradual increase in mutual helpfulness toward the realization of a higher grade of manhood and womanhood.

Nor will any other instrumentality here suffice. The family alone is directly organic to such social function, and it is precisely in this fact that the absolute and permanent validity of the family is once for all put wholly beyond question. For the same reason, too, the distinctively educational responsibility of the family can no more be abrogated or transferred than can any other of its responsibilities. There is no graver heresy than that of supposing that one or another of the fundamental duties of parents to their children can be rightfully delegated to "nurse" or to "pedagogue." (Even yet few appreciate the deep-reaching significance to the human race of the individual's prolonged infancy, though this was long since expressly pointed out by Hume, and in our own day has been more elaborately emphasized by Fiske.) Nor is it less certain that the wider social organisms, called Church and State, have each its inalienable responsibilities, its absolute duties to each of its members of whatever age—to the child member not less than to the adult. Nor can it be too strongly insisted upon that in each social organism—Family, Church, State—the duties are generic. Neither organism can really perform the functions of the other.

Thus in the Church emphasis is placed first of all upon the spiritual nature of the ultimate creative Energy. This Energy is not merely "omnipotent;" it is not merely "omnipresent;" it is also omniscient and infinite in "mercy" or sympathy. And from this major premise arises the claim that infinite significance pertains to every human being. For such being (here is our minor premise) is conceived as belonging, in his very nature as a thinking agency, to the same type of being as the

ultimate creative Energy itself; or, to express the same thought otherwise, the divine "Fatherhood" necessarily implies, not merely sonship, but *divine* sonship as pertaining to each and every unit capable of asking questions and finding answers.

Thus, through the claim put forth by the Church on behalf of the individual, the central aim of the family is raised to its highest possible degree. So that in the outcome mutual helpfulness toward a higher grade of manhood and womanhood really means nothing less than mutual helpfulness toward the progressive realization in and for each individual of that divine perfection, believed to be inherent in point of type or ideal nature in every member of the human race.

Now we cannot reasonably pretend to an adequate view of the history of the world if we overlook the fact that in its positive, constructive character the Church has always expended its energies in efforts to educate the race up to a clear, vivid apprehension of this highest of all possible ideals, as well as to enforce a living faith in the absolute validity of the ideal.

On the other hand the State is the very embodiment of that spirit of "Realism" which feels so keenly the pressure of immediately existing problems as to be more or less impatient of speculative ideals. Its energies must be expended in "practical" work. The individual members of the State must be protected against violence from moment to moment. With that ultimate ideal so ceaselessly insisted upon by the Church, the State has, seemingly, nothing to do. The State has for its function to secure the interests of the individual in the present world. The Church has for its function to secure the interests of the individual in the world to come. To repress violence would seem to be the chief mission of the State; that of the Church to stimulate rational action.

Could functions be more widely contrasted? And yet the thinking world has long since learned through hard experience that these two functions are complementary; that however far they may be separable (i. e., distinguishable) in thought, they are inseparable in fact; that he who takes seriously the highest teachings of the Church and conforms in his daily conduct to them is already practically the better citizen; that he

who performs most scrupulously his duties to the State proves himself by that fact to be in greater or less degree possessed of those positive virtues constituting the realization of that central Ideal which the Church ceaselessly insists upon.

Nay it has long been familiarly known that originally the functions of Church and of State were indistinguishably interfused in the headship of the Family, and that they have become differentiated from one another only by slow degrees through the evolution of the race.

Whence it has happened that, from the first of its independent existence, the Church has not ceased to warn, and to threaten as well as to promise and entreat; often, too, in a temporal as well as in a spiritual sense. And on its part the State could not have unfolded even its most negative enactments, save upon the basis of a more or less clearly defined positive Ideal as indicating the kind of conduct which is not only permissible, but also indispensable to genuine citizenship.

Nevertheless, throughout the entire range of history it has been assumed with practical unanimity that well-nigh every enactment of the State must necessarily begin with "*Thou shalt not*;" and, especially in our own time, there have not been wanting those who have insisted that, even so, the fewer the enactments, the better. And this claim must be allowed to have a fair degree of plausibility. It is true that in the primitive world enactments, both in Church and in State, began well-nigh invariably with the negative formula just indicated. And where the positive, "*Thou shalt*," really appeared, the specific direction immediately following usually proved to be simply ritualistic and descriptive of some form of penance necessary to expiate the violation of one or another of the negative commands. It was the *Positive* making its first concrete appearance in the form of the *negation of negation*.

But in the actual differentiation of its functions the State has in fact long since passed beyond this stage. And though the negative, repressive function is still believed by many to fill the measure of the true, "Ideal" of the State, the majority of people in all civilized countries are already convinced that, involved in that positive, universal Ideal of manhood and

## Women and Women Only

Are most competent to fully appreciate the purity, sweetness, and delicacy of CUTICURA SOAP, and to discover new uses for it daily.

In the preparation of curative washes, solutions, etc., for annoying irritations, chafings, and excoriations of the skin and mucous membrane or too free or offensive perspiration, it has proved most grateful.

Like all others of the CUTICURA REMEDIES, the CUTICURA SOAP appeals to the refined and cultivated everywhere, and is beyond all comparison the most effective skin purifying and beautifying soap as well as the purest and sweetest for toilet and nursery.

Sold throughout the world. POTTER DRUG AND CHEM. CORP., Sole Props., Boston.

womanhood which finds its highest claims in the teachings of the Church, there are certain aspects which the State is bound to recognize and promote on the ground that they are indispensable to the worthiest citizenship on the one hand, and on the other to the highest efficiency of the State, as the guardian of the citizen in all his "practical" interests.

### II.

Now the very soul of this tendency toward the development of positive functions on the part of the State is manifest above all in that great ideal movement which has already assumed such vast proportions in our own time; that is, the movement known as "Public Education," and which the modern State has been driven to adopt and actively promote through the inexorable logic of its own "practical" necessities.

And in this connection it is impossible to emphasize too strongly the fact that the Christian Church has never ceased to proclaim the dignity of Man. It has never ceased to encourage the individual man to look upon self-improvement as an absolute duty and equally to regard the indispensable conditions of self-improvement as the inalienable birthright of every human being. Not only so, but the Church has also never ceased to assure—dared not cease to assure—the individual that whatever stands in the way of his spiritual growth is by that very fact alien to the divine Order, and hence destined to be destroyed.

Familiarized with this principle through thousand-fold and thousand-hued repetition men have slowly awakened to the fact that the wrongs of oppression are due no less to the inner weakness of him who suffers those wrongs than



to the outward power of those by whom the wrongs are inflicted. Thus the world is at length becoming conscious that the one way of attaining genuine Freedom is through the unfolding of inner or spiritual power on the part of the individual. Hence the already resistless and still rapidly growing demand for fullest facilities for the achievement of this inner growth. So that no thoughtful mind can fail to see that any State or any form of the Church which should now deny education to the individual must by that fact be already doomed. Public education is no longer regarded as merely "expedient" for the State. It is clearly seen to be necessary to the very existence of the State. The modern form of the question is not "Shall the State educate its citizens?" but rather "To what extent *must* it educate them?"

And here the ideal aspect emerges into ever clearer view. Very unlovely defects are showing in our actual educational work. We inquire as to the cause, and discover first of all that in our eagerness to develop the intellect we have neglected the training of character. And so we are coming more or less rapidly to agree upon this as our Ideal in Education: That work in this field shall consist *first of all in the symmetrical unfolding of the normal spiritual nature of the individual*. He shall not only be taught to think correctly. He shall be trained into refinement of feeling and led to will worthily and to chose worthy ends.

And the actual present function of the State? That is coming to be recognized as a variable consisting of the relation between two factors. The one of these factors is: *The capacity of the individual citizen to receive education*. The other is: *The ability of the State to provide means toward such education*.

In all this constructive work, indeed, the negative function of the State is not to be altogether set aside. That can never be done until all men are perfect. On the contrary the State is to perform its whole duty to the citizen by supplementing the negative function with the positive. And this positive function, as already indicated, consists in actively aiding the individual in his development toward perfected manhood. In other words, the State, in its positive, constructive, and therefore highest significance, is not merely an instru-

mentality for the protection of the individual in his present condition of life; it is also, and still more, an instrumentality having as its highest possible function that of aiding the individual in his efforts to elevate himself into a higher degree of life. That is, the more adequately the State becomes developed the more clearly does it prove to rest upon *essentially the same basal principle as does the Church*. The process of differentiation as between Church and State proves to be also the process of the increasingly intimate interfusion of these institutions in a higher sphere.

The negative function of the State is indeed inversely as the positive. That is, it is only in the degree in which its citizens approximate normal maturity that the negative function of the State can be reduced to lower terms. And the degree of such normal maturity on the part of its citizens is dependent in large measure upon the aids which the State furnishes them toward their own *self-improvement*.

The positive function of the State is not to consist in that "paternalism" which anxiously guards the citizen against care and private initiative. It is rather to consist in educating the individual into intelligent self-reliance on the one hand, and in securing to him a free field for self-activity on the other. And here evidently the negative function is already included in the positive.

### III.

But now, without further extending this general intimation of the essential positive function of the State, it is proposed to inquire what are the special conditions of our American State tending toward what may be called distinctively American aspects of the educational problem. As Bryce and others have pointed out the American commonwealth is a political organism of a species, or rather *variety*, not otherwise known in the history of the world. The origin of the central Government was due to gradual aggregation of the several already existing embryo States of the New World; and this in the very process of their development, through revolution, toward maturity as independent commonwealths. At the same time, and in spite of the conditions tending toward centralization, the continued independent organic existence of these several States

was jealously guarded. Indeed the principle of local self-government has from the first been the real key-note of the whole system. The State is the organ of its citizens in their character of rational individuals. The center of administrative functions is not to be withdrawn from the individual. Far rather is it to be realized in him. In all his immediate relations he is to be co-legislator with his neighbors. For the most part, it is true, convenience, economy and efficiency require the delegation of actual governmental functions to specially chosen agents. But in this case the citizen participates directly in the choice of the agent through whom such functions are to be performed, just as he also assumes as one of his inalienable rights that of calling such agent to account for the manner in which he has performed the duties entrusted to him.

To every thoughtful American it is a familiar fact that in its fullest extent this includes the whole range of the more complex governmental functions—legislative, judicial and executive. It is, besides, an equally familiar fact that the ceaseless discussion involved in the ceaselessly recurring responsibility of choosing agents on the one hand, and the exercise of the right of judgment upon the course of action pursued by these agents on the other, are to be counted as among the most subtle and effective aspects of universal education to which the history of the world has given rise. It is the constant substitution of great, universal problems in place of petty local ones.

No doubt all this is even yet practically in very crude form; and no doubt the results of it are still very far from being satisfactory to the critical eye. But however crude the realization is thus far, this by no means discredits the *ideal* or *type* of political organism as in itself a thoroughly sound one. On the contrary all thinking men have come more or less clearly to recognize this type as, in its fundamental aspects, the only one through the realization of which the State (especially in its modern enlarged capacity) can really maintain and extend its essential character as the structural form through which the highest functions of human life in all its civic aspects can attain realization.

No doubt centralization, in government as well as in commerce, is inevitable. But as yet the deeper

aspect of truth involved in this process seems not to have dawned upon us; or at best is only just beginning to dawn. The deeper aspect of truth referred to is: That in such complex forms of existence as the State, "centrality," in order to attain its utmost significance and concrete efficiency, must become *co-extensive with the State itself* and find its truest realization in the individual citizen. For in a State like the American everything depends ultimately upon the reasonableness of the individual members of the State. To "centralize" in the sense of gathering all authority at one point in space—that is the direct way of reversion to despotism with all its concomitant barbarities. Reduce the opportunities of the individual for the exercise of the highest human qualities, and inevitably he becomes less human, more brutal. Extend those opportunities and he becomes less brutal, more human. For illustration, take the whole history of the world! Deal with me savagely—that is, appeal to me by force and not by reason—and all the savage there is in me will come out to meet you! Deal with me courteously—at once stimulate and satisfy the demands of my spiritual nature—and all that is best in me will respond! You are the teacher, I the pupil! If you are the State, help me to become a man!

WM. M. BRYANT.

ST. LOUIS, MO.  
(To be continued.)

No anarchists among our four hundred thousand teachers. They train, and lead, and instruct for obedience to law, for intelligence, for helpfulness and prosperity. Intelligence is safety. Anarchy is suicide.

TARIFF is good and sugar is sweet, but there are actually some other interests in this nation worth considering. Meetings of the people for the discussion of educational questions drew together men of all parties, creeds and conditions as never before. The people begin to realize that it is "what we *don't know*" that hurts us.

THE school teachers who do so much to create an intelligent constituency for the newspapers constantly, are certainly entitled to some more consideration than the press seems willing to give. Our St. Louis newspapers scarcely seemed to know there was a meeting of the N. E. A. at Asbury Park this season.

## EASILY DONE.

They say if money go before,  
All ways do lie open.

—Shak.

THIS statement is especially true in regard to schools and school management. In many places money has been needed—is now needed to extend the school term, and to pay competent teachers and to employ others needed to teach the children availing themselves of the advantages of our common school system.

Letters pour in upon us from all the States asking how to secure the money needed for school purposes.

We have taken the liberty to suggest in many instances that the superintendents or principals go to the Board of Assessors and state the exact condition of things.

So far, where this advice has been followed in a quiet way and the needs of the schools fully stated action has been taken at once—the \$1,000, \$1,500 or \$2,000 additional has been added to the levy, and the money will be forthcoming at the proper time from the proper authorities for defraying the expenses of another month of schooling to all the children, for the employment, when needed, of an additional teacher with the qualifications “fit to teach school,” as laid down by Dr. Draper, of the University of Illinois.

This can be done easily by every teacher who is intelligent, public spirited and “fit to teach school.”

Let us take hold, study the situation carefully and fully, suggest remedies for defects, and we shall find intelligent people and the school officers ready and anxious to co-operate in every way practicable, not only to establish, but to perfect our system of common schools.

Dr. Draper says it is the business of the teacher and the school “to train for intellectual power, to the end that the child may become a self-supporting citizen, may feel the dignity of honest labor, either intellectual or manual, may be disposed to earn his living, may choose a respectable vocation suited to his circumstances and within the reach of his gifts, and may pursue it contentedly until ambition and experience shall combine to point out a better one.”

When all our teachers work up to the qualifications mentioned by Pres. Draper for those “fit to teach in the schools,” the money—“before which all ways do lie open”—will be forthcoming easily.

## SCOTT COUNTY, MO.

PROF. J. H. WINKLEMAN, chairman of the Committee on Resolutions, sends us a full account of the interesting and profitable meeting of the Teachers' Institute held at Commerce. We make extracts as follows. He says:

“The attendance was exceedingly large, and the deep, unflagging, personal interest taken by all the teachers in the work, has surpassed that of any previous session held in this county. The undersigned committee presented the following resolutions which were unanimously adopted:

*Resolved*, That we thank the citizens of Commerce for the cordial welcome extended to us, the kind hospitality tendered us and the intelligent interest manifested in the work in which we are engaged.

*Resolved*, That we tender our thanks to our very efficient County Commissioner, Prof. Atchison, and our able instructor, Prof. Cook, for their earnest efforts in furnishing for us every advantage and aid to insure success in the noble work of education by securing for us the benefits and experience of the most prominent educators of Southeast Missouri in a work that so nearly concerns all of us as teachers, parents and tax-payers.

*Resolved*, That our heartfelt thanks are extended to the Rev. Mr. Hickam, and his congregation and singers for the use of their beautiful church for our evening exercises, also to the Honorable Board of Education of Commerce for the use of their school-house.

*Resolved*, That it is the will of the Institute to especially express our thanks to all those who have taken an active part in the literary and musical entertainments which have been so conducive to our pleasure and profit.

Also that a copy of these resolutions be furnished each paper in the county, the *Missouri School Journal* and the *AMERICAN JOURNAL OF EDUCATION*, St. Louis, for publication.

J. H. WINKLEMAN,  
J. L. HINES,  
W. M. DAY, } Com.

NOTES.

Prof. Vandiver, of the Normal, addressed the Institute at the M. E. Church.

J. B. Merwin, one of the foremost educators in the State, also made an address before the Institute one evening.

The four teachers who had the best forms of application were

Misses Beattie, Sayers, Cresap and Koch.

Four ladies received a grade of 100 per cent. on orthography, viz., Misses Frankie Moore, Lizzie Albrecht, Jimmie Nichols and Anna Koch.

Prof. N. B. Henry, of Caledonia, addressed the Institute, and Dr. Franklin, of Morley, spoke on Physiology and Hygiene.

Rev. Eure, of Morley, spoke to the Institute on “Moral Character in Teachers.”

Our teachers will find that scraps of knowledge clipped here and there from the *AMERICAN JOURNAL OF EDUCATION*, and other papers, will in time form a new compendium of human enlightenment, provided they can be practically and intelligently arranged.

It takes more than three feet of brick to make a brick-yard

We have been in the habit of visiting Farmington, the county seat of St. Francois County, Mo., for a number of years past, and always with a growing interest in its progress as an educational center. Years ago Miss Carlton established a college there which has grown into a large institution, and has now been turned over to the M. E. Conference. Hundreds of young men and women have been started and helped on their upward way to intelligence, power, and a commanding influence by Carlton College, who, but for this help and inspiration, would have lived on in the close environment and limited horizon which lack of intellectual and moral culture leaves so many otherwise strong people. Carlton College has been enlarged from time to time to meet its growing necessities until now it has a large, well-equipped brick building, situated on an eminence commanding a view of several adjoining counties. Miss Carlton still gives the young people who flock thither from several States her kind, wise, strong personal help.

Elmwood Seminary is another institution of learning and culture in Farmington, which has been enlarged again and again, to answer the demands of its growing constituency. It is popular, strong, and a growing power in all departments.

They are rebuilding also the Baptist College which burned last year. It needs both larger endowments and an increased faculty.

The public school in Farmington

has grown larger and stronger every year since 1867.

Mr. F. M. Vance, the County Commissioner of St. Francois County, is one of the strongest educators in the State. He has just been holding a county institute, as under the present school law, he is wisely authorized and compelled to do. There were over 100 teachers gathered for study, drill, and an examination as to their qualifications to teach. Prof. Vance was ably assisted by Commissioner Lusk, of Cape Girardeau Co. The contrast in the looks, dress, demeanor, ability and character of the teacher in the institute in 1894 over that one held in 1868 was striking, showing the immense value of the institute to the taxpayer and to the children.

Prof. Vance, as the leader, conductor and inspirer of the large number of bright, intelligent, growing teachers present, seemed as much at home and at his best as if only one were present. He has a strong, clear, acute, penetrating mind and method. No book did he take in his hand, but he did explain and unravel clearly and fully every problem which came up for discussion or review. He impressed all present not only with his ability, tact and discretion, but of his entire fairness and justice, his genial helpfulness and his quiet determination to comply with the requirements of the law without favor or fear. It is a very trying position to stand between the law, the children, the teachers desiring positions and their friends—it is not a desirable position. Some one said Prof. Vance was growing rich out of it, and when we asked for particulars, they said he was making \$2,500 a year out of it, and when we insisted upon further particulars, they told us he got \$25 or \$30 of cash, out of which he paid his office rent, stationery, postage, and traveling expenses, and the other \$2,470 in kicks and abuses. This, for a man as able, competent, clear-headed, independent and high-toned as the Commissioner of St. Francois County, set us thinking, but other matters pressed so close for expression in our address at the great meeting at the court house that we had no time to inquire after or look into this source of the accumulating wealth of the Commissioner of Schools of St. Francois County, Mo. Of one thing we are sure, and that is when all the County Commissioners of the State do their duty



as ably, efficiently, as genially and successfully as the Commissioner of St. Francois County discharges his duty as teacher and commissioner, their accumulations of wealth will be more just and more satisfactory in kind and in degree. We ought all of us to be alive and at work to secure this desirable end.

PROF. INMAN E. PAGE, President of Lincoln Institute, makes the following statement in regard to the time of opening the Institute: "In the ladies' dormitory a sufficient number of rooms will be fitted *at once* for school purposes. The balance of the library and apparatus funds will be used for the purchase of necessary apparatus. All the departments of the school will be ready to open on the first Monday in September, when the school usually opens. The Board of Regents will take steps immediately looking to the erection of a new main building which will in every respect be superior to the one destroyed by fire Aug. 2d."

NEARLY 7,000 persons were in attendance upon the various meetings of the N. E. A. at Asbury Park. The papers did not seem to say much about the meeting.

THE meetings of teachers and school officers in all the States are more largely attended this season than ever before, and more thorough and systematic work is being done. Great good to the school will be the result.

THE evening meetings for public addresses at the institutes are crowded. Good music, good speaking and good impressions of the value of the work done by our teachers comes as a result of all this effort.

STATE Supt. of Public Schools L. E. Wolfe has made the forty-ninth annual apportionment of school moneys for the State of Missouri. The amount apportioned is obtained as follows: One-third of the ordinary receipts into the State revenue fund from July 1, 1893, to June 30, 1894, \$617,077.75; interest on invested school funds, \$186,090; sundries, \$95.96 Total, \$803,263.40.

The returns from the clerks of the various counties to the Department of Education shows that there are 928,368 children of school age in the State, and the per capita distribution will be a fraction over 86c.

PROF. W. C. SEBRING, a graduate of Hooper Institute, and a long time friend of Prof. Hooper and a worker with him, has been unanimously elected President of Hooper Institute. Prof. Hooper passed on to his reward July 25th.

There will be no interruption in the good work carried on by Prof. Hooper. Prof. Sebring is a successful teacher of large experience, holds a State certificate and has proved himself to be a fine administrative officer, as Superintendent of City Schools in Sarcoxie and other points. He is very strong and popular as an institute conductor, as he is called year after year by the same people to conduct these gatherings.

He was summoned by telegraph to come to Clarksburg from his position as conductor of the Pulaski county institute. When all the facts were presented and he was the unanimous choice of the people and the alumni, he felt as if he must accept the position tendered, and he has done so. That Hooper Institute will hold its own under the presidency of Prof. Sebring no one doubts, and that it will continue to be a growing power for good and an honor to the State of Missouri, no one who knows Prof. Sebring will doubt.

THE fifth annual report of the Board of Trustees of the Missouri Botanical Garden is an elegant and sumptuous volume of 170 pages with a list of 20 fine illustrations, including beside a large number of able, scientific papers, the fourth annual flower sermon by Rt. Rev. Thomas M. Dudley, and the proceedings at the fourth annual banquet of the Trustees of the Garden, the income and expenditures of the Board, and much other matter of great scientific importance. Shaw's Garden, as by this popular name it is known the world over, is the one point of greatest attraction in the city of St. Louis.

The Board are fortunate in being able to secure a man so modest, and yet withal so competent, as Prof. William Trelease as resident director. Prof. Trelease, in closing his report, expresses his appreciation of the courtesy and interest of the Board as manifested through the year, and of the faithful service rendered by his assistants, both in the School of Botany and at the Garden. The School of Botany is a regular department of Washington University.

PRES'T A. S. DRAPER, of the University of Illinois, at Urbana, says:

"I believe that no one is fit to teach in the schools who has not the soundness of character and the cultivation of mind to be worthy of admission to the best of American homes; that the teaching service is not competent unless it possesses scholarship broader than the grade or the branches in which it is engaged, and beyond this is specially trained and prepared, and, over and above this, is in touch and hearty sympathy with the highest purposes and aspirations of the American people; and that even then it ceases to be competent when it ceases to be studious and fails to know and take advantage of the world's best thought and latest experience in connection with the administration of the schools."

How many of the 20,000 teachers in Illinois can fill out this portrait? Just read those qualifications over slowly—but don't resign—pitch in and *work up* to the qualifications required.

THAT ugly temper of ours gets us into more trouble than the combined forces of our pupils' wayward tendencies and proclivities can ever be expected to do. If we could only curb our tongue, restrain our rising passions, withhold the quick stroke of the hand, we would by this self-mastery gain not a victory over ourselves, but govern our class more even and easily, keep ourselves from many pitfalls and save ourselves from many humiliations. The teacher that cannot govern herself cannot govern her class—*Selected.*

"Ate hours per day," is what the walking delegate brags of having done.

GAIL HAMILTON says elegant school-houses, costly apparatus, educated and accomplished teachers are just as much at the service of the hod-carrier as of the millionaire. The merchant's boy at the most expensive private-school in the land is no better fitted for college than is the son of the washer-woman at the high-school, without money and without price. As a result and a very desirable result, the merchant's son, the millionaire's son, if he be bright and clever and honorable, does not often go to the private-school when

the high-school is accessible, but studies in the high-school of his own city and graduates by the side of his clever though penniless colleague. Thus the rich and the poor meet together on common ground with common interests, and with a respect or contempt for each other formed on mutual knowledge, on fair comparison, and honorable competition—a union which is of the greatest practical value to both in after life. Take away your educated teachers and your corresponding salaries, and you have changed all that.

PRES. A. S. Draper, of the University of Illinois, believes that "the American school system is incomplete unless it begins with the kindergarten and ends with the university; that if any part of this system demands better care than any other, that part is at the bottom rather than at the top."

WHEN you read the statement of Gov. Hogg, of Texas, you will see why Texas is drawing constantly our best educators into her schools, colleges, and her State University. Texas is able to pay her teachers liberally, as will be seen by the statement referred to.

Texas is not only able to compensate her teaching force, but the State is able to maintain, extend and perfect her common school system until the system is "thoroughly articulated" from the kindergarten up to the State University. Who would dare predict the future of this Empire of the Southwest—when this is completed.

Below is a fac-simile of a communication recently sent to the AMERICAN JOURNAL OF EDUCATION by Messrs. Geo. P. Rowell & Co., publishers of the "American Newspaper Directory." We reproduce here for the benefit of advertisers and our readers and to emphasize the fact that the JOURNAL, not only LEADS in Missouri, but in the great Southwest.

### Largest in the State OF ITS CLASS.

AMERICAN JOURNAL OF EDUCATION:

In a list of Class Journals enumerated in the American Newspaper Directory for 1894 the paper to which this circular is addressed will have a higher circulation rating than is accorded to any other paper of its class in the State.

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## NATURES LESSONS.

In nature's infinite book of secrecy  
A little I can read.—*Shak.*

ALL can profitably engage in these lessons in nature.

The youngest child and the oldest person alike are charmed with ever growing beauty, and this nature, from the most tiny flower up to the constellations of stars that flee away in the deserts of space, is inexhaustible.

*School Education* for July, a rare, beautiful and valuable issue, is entirely devoted to this subject, comprising in its 60 pages illustrations and comments of great interest and value, and all brought within the capacity of our primary and common school teachers, and ranging on and up to the highest forms in science and literature.

From the article by Sarah L. Arnold, Supervisor of Primary Instruction in Minneapolis, Minn., we glean the following

## "GOOD WORDS"

which have been written in behalf of Nature Study, in the hope that they may give the *young teacher* a glimpse of the poet-world to which the study opens.

Not simply for power to see, does the child observe nature; not simply for facts of knowledge; but that his soul may grow, that he may learn to read the messages everywhere written for him in Nature's book, types of eternal truths. For this *power of vision* he must go to the poets, as well as the scientist. He must learn to share their sympathies, to enter into the broader fields which imagination opens to him.

Let the teacher who would lead the child into the study of nature dwell with the poets. Read again and again the poems in which they have interpreted nature to us. If once you catch their spirit, your work will grow. It will inspire every lesson, will cause the children to look up, will make the study an element of growth to both teacher and pupil.

So the fields which his eyes discover will open before the child to the Elysian fields which are as truly his—imagination will walk hand in hand with observation, and both work together to help the children to true interpretation and enjoyment of Nature.

"The lands are lit  
With all the autumn blaze of golden-rod;  
And everywhere the purple asters nod  
And bend and wave and flit."  
—*H. H.*

"Flower in the crannied wall,  
I pluck you out of the crannies;  
Hold you here, root and all, in my hand.  
Little flower—but if I could understand  
What you are, root and all, and all in all,  
I should know what God and man is."  
—*Tennyson.*

"Bear a lilly in thy hand."—*Longfellow.*  
"Wearing the white flower of a blameless life."—*Tennyson.*

"I love the shadowy forests, where the birds  
Twitter and chirp at noon from every tree;  
I long for blossomed leaves and lowing herds,  
The green fields wait for me."

"Oh, the green things growing, the green things growing;  
The fresh, sweet smell of the green things growing!  
I would like to live, whether I laugh or grieve,  
To watch the happy life of the green things growing."

"Your voiceless lips, O flowers, are living preachers,  
Each cup a pulpit, and each leaf a book"

"I was given a seed to plant. When I loved it most I was bidden to bury it in the ground. I buried it, not knowing I was sowing."  
"Hope is the tune of the spring bird's song,  
And the leaves in all their prisons hark,  
And blossoms know 'tis the end of dark,  
Of the winter so cold and long."

"Flowers are God's undertones of encouragement to the children of earth."

"Oh, pleasant, pleasant were the days,  
The times, when in our childish plays  
My sister Emeline and I  
Together chased the butterfly!  
A very hunter did I rush  
Upon the prey; with leaps and springs  
I followed on from brake and bush;  
But she, God love her! feared to brush;  
The dust from off its wings."  
—*Wordsworth.*

"Under the greenwood tree,  
Who loves to lie with me  
And tune his merry note  
Unto the sweet bird's throat?  
Come hither, come hither, come hither!  
Here shall we see  
No enemy  
But winter and rough weather."

Who doth ambition shun,  
Who loves to lie in the sun,  
Seeking the food he eats  
And pleased with what he gets?  
Come hither, come hither, come hither!  
Here shall we see  
No enemy  
But winter and rough weather."  
—*Shakespeare.*

"Blessed be God for flowers!  
For the bright, gentle, holy thoughts  
that breathe  
From out their odorous beauty like a wreath  
Of sunshine on life's hours."

"Is it raining, little flower?  
Be glad of rain;  
Too much sun would wither thee;  
'Twill shine again.  
The clouds are very dark, 'tis true,  
But close behind them lies the blue."

"Art thou weary, tender heart?  
Be glad of pain;  
In sorrow, sweetest things will grow,  
As flowers in rain.  
God watches, and thou shalt have sun,  
When clouds their perfect work have done."

"Forgiveness—'tis the odor that the trampled flour gives out to bless the foot that crushes it."

"Time the measure of his hours  
By changeful bud and blossom keeps."

"The mountain and the squirrel  
Had a quarrel,  
And the former called the latter "little prig."

Bun replied:  
"You are doubtless very big,  
But all sorts of things and weather  
Must be taken in together  
To make up a year  
And a sphere.  
And I think it no disgrace  
To occupy my place.  
If I'm not so large as you,  
You are not so small as I,  
And not half so sly.  
I'll not deny you make  
A very pretty squirrel track.  
Talents differ; all is well and wisely put;  
If I cannot carry forests on my back,  
Neither can you crack a nut."  
—*Emerson.*

"The river knows the way to the sea,  
Without a pilot it rises and falls,  
Blessing all lands with its charity."  
—*Emerson.*

"O maple tree, O maple tree,  
What do we plant in planting thee?  
Summers of sun, winters of snow,  
Springs full of sap's resistless flow,  
With autumn's joy of garnered fruits  
And hundred purposed buds and shoots.  
Secrets of fields and upper air,  
Secrets which stars and planets share;  
Light of such smiles as broad skies fling,  
Sound of such tunes as wild bird sing.  
O maple tree, O maple tree,  
These do we plant in planting thee."  
—*Adapted from H. H.*

"A violet by a mossy stone,  
Half hidden from the eye,  
Fair as a star, when only one  
Is shining in the sky."

"My heart leaps up when I behold  
A rainbow in the sky.  
So was it when my life began,  
So is it now I am a man,  
So be it when I shall grow old,  
Or let me die!

The child is father of the man,  
And I could wish my days to be  
Bound each to each by natural piety."  
—*Wordsworth.*

## OCTOBER'S BRIGHT BLUE WEATHER.

"O, suns and skies and clouds of June,  
And clouds of June together,  
Ye cannot rival for one hour  
October's bright blue weather."

When loud the bumble bee makes haste,  
Belated, thriftless, vagrant,  
And golden-rod is dying fast.  
When lanes with grapes are fragrant.

When gentians roll their fringes tight  
To save them for the morning,  
And chestnuts fall from satin burrs  
Without a word of warning.

When on the ground red apples lie  
In piles like jewels shining,  
And redder still on old stone walls  
Are leaves of woodbine twining.

When all the lovely wayside things  
Their white-winged seeds are sowing,  
And in the fields, still green and fair,  
Late aftermaths are growing.

When springs run low, and on the brooks  
In idle, golden freighting,  
Bright leaves sink noiseless in the hush  
Of woods, for winter waiting.

O, suns and skies and flowers of June,  
Count all your boasts together;  
Love loveth best of all the year  
October's bright blue weather."  
—*Helen Hunt Jackson.*

In another place we print the "qualification" Pres. Draper believes to be necessary to make one "fit to teach in these schools."

## SYMPOSIUM ON NATURE STUDY.

Framed in the prodigality of nature.—*Shak.*

Wm. T. Harris, U. S. Commissioner of Education. From "How to Teach Natural Science in the Public Schools"

IT seems to me that the reflex value of nature study on the teacher is worth quite as much as the immediate value of the lessons to the pupil. The teacher is led to study and thoroughly prepare herself, and then, in this lesson, she is led to probe in a freer manner than ordinary the miscellaneous fund of experience possessed by the individuals of her class; thus she cannot fail to find new means of getting hold of pupils in each of the regular branches of the daily course. She will find herself getting more and more emancipated from the slavish use of the textbook and able to stand before her class with a consciousness of her strength and ability to draw out the resources of each and all of her pupils and combine the same into one result.



*Wilbur S. Jackman, Cook County Normal School, Englewood, Ill.:*

Nature study in all its phases is the first necessity and inalienable right of the child. By the shimmering light, through the tremulous air and to his inquisitive touch, nature speaks to the child while even his mother strives vainly to be understood. Education begins with these initial touches and, as contact with nature widens and intensifies, the senses quicken, the judgment strengthens, the rational imagination grows and the thoughts which come into the mind as it contemplates the mutual adaptations of the different parts and their relations to the whole are, in their suggestions of infinite law, the loftiest that can possess the human soul.

*Edward Searing, President State Normal School, Mankato, Minn.:*

There is an earnest effort being made in this school to organize a thorough course in Nature Study for the grades. This has its origin in the conviction that natural objects are amply worth studying, both for their intrinsic interest, and for the development of the observing and judging faculties of the pupil. Familiarity with nature, we also believe, has a tendency to make a pupil gentle, sympathetic, compassionate, reverential of beauty and law. If "an undevout astronomer is mad," an ungente, unsympathetic botanist, zoologist, or geologist must also be mad. The entire effect of nature study is refining and elevating. We also hold that through nature study, rightly planned, the power of expression, oral and graphic, has opportunity for easy, rapid and large development. I do not myself hold that nature study is necessarily the best field for this, but that it is at least a large and useful annex to the old humanitarian domain.

*C. B. Gilbert, Supt. City Schools, St. Paul:*

WHY SHOULD THE CHILD STUDY NATURE AND HER PHENOMENA?

—Nature is man's environment in the world. A thorough knowledge of this environment is essential to success of either the lower or higher sort. The progress of the present century is due to a better apprehension of the wonderful powers and activities of nature, so that to be in touch with the age and to obtain

even a material success, the child must know his surroundings.

Second. The study of nature, better than any other study, develops the powers of observation and those valuable intellectual faculties—classification and generalization.

Third. The study of nature leads up to the spiritual world.

*H. C. Muckley, Supervisor of Public Schools, Cleveland, Ohio:*

We feel that Nature Study has had a wholesome influence in quickening the perceptive faculties, in multiplying the points of contact between the child and his environment, and in bringing about a more sympathetic relation between teacher and pupil.

Nature Study stands closely related to nearly all other work; to Literature, because a knowledge of natural laws and natural phenomena is indispensable to a full appreciation of much that the best authors have written; to language and composition, because of the material which it furnishes for work in these subjects; to geography, because this subject, whether considered from its physical or commercial aspects, rests ultimately upon natural laws. Nor is it wholly unrelated to arithmetic, for turn where we may we are confronted by a question of number.

*Sarah L. Arnold, Supervisor of Primary Schools, Minneapolis:*

The work in Nature Study in the schools of Minneapolis has not been an isolated thing. It has been closely related to language, literature, reading, spelling and drawing. The purpose of the study has been not simply to give to the child knowledge of animals, plants or minerals, but to beget in him a love of nature, to inspire a reverent questioning in the field of nature, and to lead him into avenues of happiness through developing in him a love of the beautiful and a power to see the beautiful. This being the aim, the work has not been confined to observation, but we have tried to appeal to the imagination as well. We have called upon artist and poet to help us to interpret the beautiful, and the children have committed to memory the poems which express so beautifully what their own eyes are beginning to see. The work

in nature study and literature thus related has been the basis of the language lessons and has directed, as far as possible, the selection of material for reading.

We feel that our children are constantly growing in the power of observation and interpretation of nature. They give every evidence of interest in their work. We feel that Nature Study is now an essential factor in our course.

*Francis W. Parker, Principal Cook County Normal School, Chicago, Ill.:*

Nearly twenty years ago a suspicion was aroused in my mind that elementary science should form a substantial part of the organic work of the public schools. I believed without experience and without any practical knowledge of what I believed, that science was an exceedingly valuable study and that the children of the schools, when the right conditions came, would love that study; that pupils from the highest grammar grade could step into the high school with a vast deal better knowledge and better mental equipment of science than those who now graduate from the high school.

Since the time I began my supervision in Quincy until the present time I have held this belief. I am glad to say that it has been growing day by day, and has at no time been stronger than now. I see the children in the Cook County Normal School, under Mr. Jackman's directions, earnestly and persistently devoted to the study of elementary science, and I am convinced from actual experience that the children learn reading, writing and arithmetic, and drawing, as a means to an end; that end being the study of the laws of nature, manifested through inorganic and organic matter.

The results in our school I think, prove the immense value of this direction of study. There is no doubt about the future, as teachers understand more how to teach, the more of science they will use, not leaving out, it is true, the study of geography and history.

*Frank T. Baker, English Language and Literature, N. Y. Teachers' College:*

I believe Nature Study for children will help in their appreciation

of literature by its enlargement of their sympathies; by sharpening their power of observation and enriching their concepts of beauty; and by its revelation of cause and unity in life.

*John F. Woodhull, Science, N. Y. Teachers' College:*

Nature Studies contain in themselves the possibilities of a complete education, not excepting the fruits which have hitherto been ascribed to the humanities alone. And, although I appreciate that such a treatment is not practicable in the common schools, I am loth to circumscribe the province of Nature Studies in our curricula.

*Elizabeth A. Herrick, Form, Drawing and Color, N. Y. Teachers' College:*

The study of nature opens a child's eyes to really see something of the world in which he lives. It enables him to appreciate, in a measure, some of the beauty which is around him. This appreciation of natural beauty leads to the recognition of the higher beauty. The drawing and modeling of natural forms leads to clearer observation, and more truthful expression, which will be helpful in every walk of life.

*I. F. Reigart, Psychology and the History of Education, N. Y. Teachers' College:*

Nature Studies should afford appropriate sense training at the time when such training is of the greatest importance. They should cultivate the power to compare, to analyze, to classify—in a word, accurate observation as the basis of sound thinking. Such studies appeal to the early interests and instructive activities of the child, and lead to broader sympathies.

*Annie A. Schryver, Science Department, Teachers' College, N. Y.:*

To me the life of so many of these city children seems altogether wrong. In so many cases childhood is only a term of apprenticeship served that the bread and butter question may be solved in the future. The child should find himself in the natural world and become acquainted with the environment fresh from the Creator, not in artificial surroundings learning the trades and occupations of men. These will come soon

enough. Is our kindergarten a child's garden or child's factory? If we cannot take the children outdoors do we bring outdoors in?

*Sarah E. Brooks, Supervisor of Primary Work, St. Paul Minn.:*

Christ and the prophets stated and demonstrated the law of apprehension long before the time of Leibnitz. "There must first be the seeing eye, the hearing ear and the understanding heart." No mind, no soul, advances in the way of life beyond its own capacity to receive.

We have boys in our schools who hate books and slates, and who seek opportunity to defy our authority, even to the extent of truancy; but teachers will tell you that these same outlaws are the first to respond when a request is made for frogs' eggs, tadpoles, crawfish, crickets, snails, plants and flowers. They know these things and can tell you many secrets of their habits and environments. They hate reading and writing because they don't seem to be related to anything of interest in life.

Now, why not approach these boys on the side of their knowledge and interest, and thus lead them to better things? The facts known of a plant may be supplemented by names and uses of parts, its habits through successive seasons, and its dependence for propagation upon insects, wind or animals. God's tender consideration for all frail, helpless creatures can be taught in the protection afforded to roots, buds and blossoms. Simple reading lessons can be made from subjects studied and from reproduction of poems and stories related to the same. Books which tell of life beyond his reach may lead to still greater interest in reading, because a positive means is thus afforded to add to knowledge already acquired. Who knows but that some, climbing by ways they dimly comprehend, may reach the higher level of law-abiding and culture-loving citizenship?

#### CHANCELLOR CHAPLIN'S SPEECH.

But here I am, to speak what I do know.—*Shak.*

**E**DITIONS *American Journal of Education:* The recent address of the chancellor of Washington University, in the East, as reported, has given rise to a great

deal of adverse criticism, but thus far no one has taken what, to the writer, would seem an impartial view of this question. Mr. Chaplin has stated some facts bluntly; for when he says that the people out West have no idea what science means, and then, in proof of this, cites the fact that we have in St. Louis eleven medical colleges, he is really not far from the truth, as this fact goes far to show, and only errs by applying a lamentable fact to one section, when, to a great extent, similar conditions obtain in all parts of the United States.

To come back to our eleven medical schools—how can we possibly sustain that number when the German Empire has for its fifty millions of people just *twenty-one*. Is it not a self-evident truth that the conditions, laws and public opinion, which make these eleven institutions a possibility, are such as do not redound to the credit of a community supposed to have some idea of what science means? Can our eleven medical schools as made up, and as now conducted, represent the scientific achievements of to-day, and how many of its professors (so called) are fit to be teachers? The conditions, reasons and causes why so many of these institutions do spring up, live, and annually turn out hundreds of ill-trained youths to do legal murder by their lack of scientific knowledge, these Mr. Chaplin has stated in part. As an educator, and no doubt having at heart the elevation of all schools of learning, Mr. Chaplin must certainly have felt the utter hopelessness of the cause of education when such things are possible. Not only this, but these may be rendered worse by an addition, without limit or legal hindrance, of similar "colleges." The writer has had students of these schools in his employ that lacked the first rudiments of a common school education, to say nothing of the scientific knowledge necessary to adequately equip a person to practice medicine. And just herein lies the crying shame and danger to the whole land. The utterly selfish, unscientific business rivalry between these various factions and schools—the greed after "students"—makes it an easy matter for the most unfit subject to enter and pass the ordeal of these affairs. And thus lists of such are annually given diplomas, and go forth to literally murder under and above all law, for their diploma as M. D. is a *carte blanche*, and the poor vic-

tim—how is he to know the real from the sham—has to submit and pay for service usually not rendered. Hence in order to make us earn the distinction of knowing what science means, we should above all have laws enacted that would make some guarantee possible that "professors" in all schools should know that they are competent to teach, then establish a course of medical education of not less than 4 years; for how can a boy, just from the plow or workshop or poorly schooled in the elementary branches, master the vast field of medical sciences in two courses of six months each? Such an idea to and intelligent person is preposterous. Demand a high preliminary education, and like mushrooms our various charlatan medical schools would vanish and leave the field to the few competent to occupy it with credit to themselves and be an honor to the State and city and a blessing to afflicted humanity, instead of being, as they now are, a danger and a curse to the people. Until this is done we must continue to smart under the stigma that "people out West do not know what science means."

A B. C

#### TEXAS.

Sweet is the country, because full of riches;  
The people liberal, valiant, active, wealthy.  
—*Shak.*

**W**E wish a hundred thousand of the intelligent, active, enterprising citizens of Texas could visit New York, Albany, Boston, Providence, and other New England cities, and carry with them such facts as Gov. Hogg presented on his recent visit thither, and carry home with them such impressions of the people as Gov. Hogg carried to Texas. Such an intermingling of people would be of great benefit all around.

But what *one* instrumentality aside from the railroads has done more to build up the State and draw capital and immigration of the best sort to that State than

#### THE SCHOOLS OF TEXAS?

Here is the magnificent statement of the progress of the State, made by her Governor

The progress made by Texas in 24 years was summarized by Gov. Hogg in his Boston speech. He said:

"In 1870 the aggregate property values rendered for taxation amounted to \$170,473 000, while in 1893 they aggregated \$886,175,395. Then the population was 818,000;

now it is 2,400,000. Then we had 320 miles of railroad; now we have 9,250. Then the acreage in farms aggregated 1,800,000; now it amounts to 9,115,220 acres. Then the cotton crop in bales was 350,000; now it amounts to over 1,800,000 bales. Then the corn crop aggregated 20,000 bushels; now it amounts in bushels to over 77,000,000. Then the wheat crop yielded 415,000 bushels; now it amounts to 6,553,000 bushels. Then we had only 2,399 factories; now we have over 4 000 of them. Then there were only \$5,284,000 invested in factories; now there are invested in them over \$60,000,000. Then the factory hands numbered only 7,607; now they number over 25,000. Even the blessed school children in the last ten years have increased from 295,457 to 630,303.

"So, you observe that property values in the period from 1870 to 1893 increased 420 per cent; the population 193 per cent; the miles of railroad 2,790 per cent; the farms in acreage 406 per cent; the cotton in bales 414 per cent; the corn in bushels 285 per cent; the wheat in bushels 1,479 per cent; the number of factories 66 per cent; the capital invested in factories 1,035 per cent; factory employes in number 228 per cent; and the scholastic population in 10 years 113 per cent."

#### STUDENT CO-OPERATION COLLEGE GOVERNMENT.

"Let men say  
We be men of good government."  
—*Shak.*

**A**MERICAN colleges early adopted the English view that the college stood to the student *in loco parentis*. This parental relation has ceased to be real. Oversight has become less and less possible, and more and more objectionable to the students, and nothing has been substituted for the decaying system. The problem is a real one. A new and definite system is demanded. This demand is testified to by the great amount of criticism in the daily press of many so-called college outrages. The possibility of so unmanly and brutal an act as *hazing* among refined and educated people is itself witness enough to the need of an overhauling of the system under which it is permitted to exist. What solution has the age to offer? Amherst has tried student co-operation; Cornell and Princeton have tried committing special functions to students; Chicago and others have tried regulating the



dormitories by the inmates. All report a general approbation. Indeed, on every side there is a growing feeling that college students are no longer boys, but men; that they are generally earnest and self-respecting; that loyalty to their own institution is an increasingly influential sentiment. In recognition of these facts it seems as though nothing could be more natural than to give these sentiments outlet and direction by enlisting them in the cause of college government.

The question is a larger one than is implied in the word discipline. But few students are ever involved in questions of discipline, while all are included in the problem of government. When a vast majority are interested in promoting the welfare of the college, they should be called on for aid in directing all undergraduate enterprises, in making room for new forces, in stamping out abuses and anachronisms, and in curbing the few who are unruly and ready to make trouble. Modern student life is as sensitive as the life of youth always is. It has been made self-conscious by too much attention, both to praise and blame, and it needs to have demands made on it in order to awaken its sense of responsibility, to stimulate its devotion and to cultivate its self-control.

A very large proportion of our college students are voters. Nearly all are on the eve of becoming voters. Can the college refuse to trust them, upon whom a share of the responsibility for the State rests? And, on the other hand, is it not the duty of the college to train its students to become citizens as well as to be scholars? In the hands of those who aid and abet hazing the grand jury can scarcely be effective. The cure is early teaching of the same code of morals in college and in State. I believe that an overwhelming proportion of our young men are ready to respond to increased responsibility, and to justify a large measure of confidence. The details of the plans are various and unimportant. The beginning should be made with care, and development should be made to rest on results. The future will certainly justify a large degree of mutual confidence and trust between teacher and student, and will exhibit in student and alumnus a higher appreciation of the munificence of benefactors and of interest in the development of the college which he calls his own.

[The above is an abstract of a paper read before the National

Educational Association, at Asbury Park, N. J., July 12, 1894, by Ethelbert D. Warfield, president of Lafayette College.]

DR. C. M. WOODWARD told the N. E. A., at Asbury Park, that if we examine the matter it is easy to see the source of a wide spread prejudice against *technical training*.

The history of civilization has been the history of masters and slaves, of caste, of contempt for labor and for all useful arts.

Every one of the technical professions had its beginnings in the crafts, and the present expert and chief engineer had as a prototype a man in overalls, with horny hands and a dirty face, who presided over some enginery which was not in the books and which was regarded as decidedly ungentle.

Milton placed Memnon, the first ante-tellurian engineer, among the fallen angels and sent him

"With his industrious crew to build in hell."

The engineer is by nature an iconoclast. He has small respect for the traditions. He bows not down to the "Tyranny of the Ancients." His glories are in the future. He looks forward, not back. He does not hesitate to smile at the puerile fancies of people who, in the "Youth of the World," created gods and demigods in order to account for phenomena which bear no comparison with the exploits of modern engineering.

The accomplished engineer generally reciprocates the prejudice I have mentioned, for he cannot understand how the worship of the ancients can be really serious. It seems to him three-fourths affectation. This prejudice was fostered by the high wall of separation, which at first kept the technical and the liberal branches of study far apart. That wall, I am happy to say, is fast tumbling down, and men are rapidly scrambling over it in both directions. It becomes us, from our various vantage grounds of influence, to encourage this evolution of a better feeling, a more intimate acquaintance, a mutual respect, and a common zeal for whatever is broad and high and fine.

DR. BRYANT'S articles on "The American Scheme of State Education" will be invaluable to every teacher, taxpayer and school officer. If we mistake not Dr. Bryant will clear up some mistaken notions on this subject before he gets through.

## KEEP WELL.

Were he not in health  
He will embrace the means to come by it.  
—Shak.

WE cannot begin too early to inculcate among the children and the people laws pertaining to the preservation of health.

Shakespeare says:

"Diseases desperate grown  
By desperate appliance are relieved,  
Or not at all."

The study of physiology has become one of the branches in our common school curriculum.

Here are a few statements it may be well to have at hand bearing upon this topic:

It is said that the human skeleton, exclusive of the teeth, consists of 208 bones.

The ear has four bones.

The human skull has thirty bones.

The lower limbs contain thirty bones each.

The globe of the eye is moved by six muscles.

The wrist contains eight bones, the palm five, the fingers have fourteen.

The weight of the averaged sized man is 140 pounds; of the woman, 125.

On an average the lungs contain about 280 cubic inches, or nearly five quarts of air.

A woman's brain is larger in proportion to the body than that of a man.

The longest, largest and strongest bone in the human system is the femur, or thigh bone.

There are in the human body 527 distinct muscles, of which 261 are in pairs and five are single.

Frequent cutting or trimming of the hairs increases their thickness, but not their number.

It is said that the image formed on the retina of the eye is inverted, so that all things are really seen upside down.

A perfectly formed face is one-third forehead, one-third nose, one-third upper and lower lip and chin.

The oil glands of the skin are the most numerous where there are fewest perspiratory glands.

The teeth, like the hair and nails, are appendages of the skin and form no part of the osseous system.

The eye adapts itself to view objects near and distant by a change in the curvatures of the crystalline lens.

Under normal circumstances, a man throws off 2 pounds every day in sensible and insensible perspiration.

The heart ordinarily beats about seventy times a minute, and throws about two ounces of blood at each contraction.

The leg of a perfectly formed man should be as long as the distance from the end of his nose to the tips of his fingers.

The tongue contains a bone which gives support to its base and furnishes an attachment to the muscles that move it.

The liver, like the heart, is never idle, though its period of greatest activity is several hours after digestion has begun.

The sense of taste is most acute in the base, tip and edges of the tongue, and is almost wholly lacking on its inferior surface.

Blind persons acquire so great a delicacy of touch at the tips of their fingers that they may really be said to see with their hands.

Anatomists say that the tongue of woman is smaller than that of man, but married men regard this statement with grave suspicion.

A woman of perfect form should measure about a foot more from her waist to her feet than from her waist to the crown of her head.

It is said that the head and face have 83 muscles; the neck has 49; the thorax, 78; the abdomen, 33; the back, 78; the upper extremities, 98; the lower, 108.

A well-proportioned woman wears a shoe whose number is half that of her glove; for instance, if he glove is No. 6, her shoe should be No. 3.

At the time of digestion the quantity of blood that flows to the stomach is greatly increased, some authorities say to tenfold the usual amount.

In a perfectly formed female figure, twice around the thumb should be once around the wrist; twice around the wrist should be once around the upper arm; twice this is once around the neck; one and a half times the circumference of the neck equals that of the waist.

The muscles of the hand reach their highest perfection in man; no other animal has a true hand; the muscles of the eyes, ears and nose show that several groups, which in the lower animals are very highly developed, in man are in an almost rudimentary condition.

In health and during exercise the average man has about twenty respirations a minute, and 40 cubic inches are inhaled at each respiration; in an hour, 98,000 cubic inches of air will be inspired; in twenty-four hours 1,152,000 cubic inches, or about the contents of seventy-eight hogsheds.

An idea of the importance of the perspiratory glands may be gained from their number. On the back, breast and legs there are about 500 to the square inch; on the neck, face and back of the hands, about 1,000; on the palm of the hand, about 2,700. The total number in the human body is estimated at 2,300,000, and if the minute tubes were straightened, their total length would be over two and a half miles. They form the sewerage of the human system.

Be forever on the alert for truth.

## Educational Opinion.

EDWARD EVERETT HALE declares that in every community known to him the system of public education needs inspiration. So, may it be added, does every teacher. The highest scholarship, the best normal training will avail but little where inspiration is an unknown factor. Wherever success does not wait on endeavor, there, it may be safely affirmed, inspiration is lacking.

Do not let the mind become torpid during the vacation by inactivity. Let the nature that is around you teach you a course of lessons. Let your reading be of that invigorating stamp that broadens and inspires, and that will supply you with material not only to make you a better teacher but a better member of the community. What a boom to a community is a teacher with a well stored mind! Such a one can help to establish a reading circle, a course of lectures, or be a leader in any work that promises culture. Vacation is the time to lay up material for this work.—*Editor Review.*

HOWEVER well endowed a teacher may be in respect to instruction or intelligence, he will always be inferior to a teacher who, to the same personal qualifications, adds that which gives power, assurance and decision—the reflected knowledge of the natural laws for the development of the intelligence.—*Compayne.*

A MAN can do more good by helping children to be taught well than he can by commanding an army.—*General Slocum.*

WHATEVER form or plan or method of conducting the institute be devised, let it not be forgotten to have the outlook toward the broadening of the teachers by living contact with living thoughts in living minds. Let it be continually kept in mind that the natural tendency of the teacher is toward intensiveness and narrowness. The isolating environment of locality and schoolroom, the continual coming in contact with immature minds, are elements that in their tendency produce narrowness and empiricism.—*Principal J. M. Milne, State Normal, New York.*

MOST of us have been religiously trained to distinguish sharply between the sacred and secular portions of our conduct, and to place political and social affairs in the secular class. This teaching was wrong and has produced most unfortunate results. We have derived from it the habit of thinking that as care for public concerns is merely secular, it is hardly a duty at all, and may as well be neglected as not. Equally common and equally pernicious is the thought that the existence of human beings on this earth has meaning only in view of a higher form of existence to come after death. It certainly ennobles our conception of human nature to

think of it as destined for a fuller being than is possible here; but it is extremely misleading to regard men's earthly experience as destitute of value on its own account. Viewing it so, we inevitably come to consider it as of little importance how the affairs of this world go on. Is not an unselfish life here and now as beautiful a thing as any other sphere of existence will ever offer? And so of society; if we can bring it to something like ideal perfection right here on this actual earth, will not the heaven thus begun have a valuable character of its own?—*President Andrews, Brown University.*

PRACTICAL education is not the knowledge of crafts, trades and professions. It is not that which confers skill in the use of this or that instrument; it confers upon man the right understanding and ready use of himself. That is practical education, worthy of the name, which enables a person to maintain bodily health, strength and comeliness; to command his own muscles and nerves; to employ his organs of sense with accuracy and effect; to adapt himself to outward physical conditions; to subdue unruly appetites; to compel the material world to yield most benefit at least expense.—*W. H. Venable, LL.D.*

SCOLDING is a frost, praise is a general refreshing. There is as much opportunity in the worst cases for commendation as condemnation, and the former is infinitely more needed. If error there must be, let it be in that of too much praise, rather than of too much scolding.—*R. Heber Holbrook, Ph. D.*

THE educated man is not the gladiator, nor the scholar, nor the upright man alone; but a just and well-balanced combination of all three. Just as the educated tree is neither the large root, nor the giant branches, nor the rich foliage, but all of them together.—*David P. Page.*

"THE less means the elementary school has for mental culture proper, the more economical it must be in their use—i. e., the less dare it destroy the effect of these means through the mere mechanical work of reading and writing. \* \* The development of the pupil's conceptions, the broadening of his mental range through the geography of the country and the topography of the region where he lives, together with knowledge of the natural products and the intercourse of men that live there; exercises in mental arithmetic and measuring of lines and planes (after the manner of 'object lessons'),—all this sets the elementary school a great task, beside which it cannot at all think of merely teaching reading and writing as rapidly as possible."—*Herbart.*

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## Course of Study.

EVERY school, whether country, village, or high school, ought to have a course of study, and it ought to be followed systematically throughout the year. In order to be practical, the course of study should give a definite idea of the work required in each branch during the month. The results of such a course will be:

*First.*—To advance the pupils step by step, to give them credit for work done and to lessen the damaging results of too frequent change of teachers.

*Second.*—To unify the work in the common schools of the county, thus forming a basis for comparing, by means of written examinations or reviews, the results in the different schools, and for a closer and more effective supervision.

*Third.*—To keep constantly before the minds of pupils subjects and principles, instead of paragraphs and pages, thus practically solving the vexed question concerning diversity of text-books, and rendering it possible, by outlining by topics, for pupils to use whatever text-books they may have.

*Fourth.*—To enable directors and parents to know better what the common schools are accomplishing for their children, hoping in this way to gain their active sympathy in the work.

## THE PLAN.

Eight grades of work below the high school are provided, as being the simplest and most easily adapted to all schools. Thus, if a child starts to school at six and keeps up with his grade, he will complete his course at fourteen.

*Primary Grades.*—The Primary Grades include the first, second, third and fourth years; and present the work of the chart, first, second and third readers; also oral instruction in language, number, physiology and hygiene and geography. In the third and fourth years, an elementary text-book in language may be used, and a text begun in arithmetic the fourth year.

*Grammar Grades.*—These include the fifth, sixth, seventh and eighth years; and present the work of the fourth and fifth readers; and include also elementary and advanced texts in arithmetic, grammar, geography and history, and an elementary text in physiology and narcotics. Observation work in the natural sciences—zoology, botany and natural philosophy—has been prepared.

Spelling, writing and drawing are to be included from the chart through the fifth reader.

*Higher Course.*—To aid those pupils who wish to continue their studies beyond the common branches, and to provide a more extended course of study for the smaller graded schools, a higher course, covering two years of high school work, should be adopted. This will include text in science, algebra, general history and book-keeping.

## CLASSIFICATION.

The classification of the pupils in the different grades is a subject that must be left to the judgment of the individual teacher. The following is approximately what should be found in an average school of thirty pupils:

*Reading.*—Not more than five classes with nine recitations daily.

*Spelling.*—Two classes, one intermediate and one advanced. One recitation each, daily.

*Language.*—Two classes in spelling. One recitation each, daily.

*Penmanship.*—One class daily, and never omitted.

*Arithmetic.*—Primary, one class, one recitation daily, oral. Intermediate, two classes, one recitation each, daily. Advanced, two classes, one recitation each daily. Where possible combine two classes into one.

*Geography.*—Never more than two classes in the text-book. One recitation each, daily.

*History.*—Two classes, one intermediate and one advanced. One recitation each, daily.

*Physiology.*—One class and one recitation daily.

To enforce this course of study the work has been divided, as far as practicable, into months, and at system of monthly written examinations or reviews recommended.

Our observation convinces us that every attempt to use a course of study without the monthly written examination has proven a failure. Remember that no course of study will adopt itself, neither can it be adopted and gotten into good working order in any county, or even school, in a day or two. But it will take patient, persevering effort on the part of teachers and superintendents.

NOTE.—We will give systematic help on the course of study each month in this department.

The following outline should be preserved and referred to.

## OUTLINE OF THE COURSE.

		Reading. Spelling. Writing.
First Year...		Language. Number. Hygiene. Drawing.
		Reading. Spelling. Writing.
Second Year...		Language. Number. Hygiene. Drawing.
		Reading. Spelling. Writing.
Third Year...		Language. Arithmetic. Physiology. Drawing.
		Reading. Spelling. Writing.
Fourth Year...		Language. Arithmetic. Physiology. Geography. Drawing.

NOTE.—In the Primary grades spelling and language should be taught in connection with reading.

NOTE.—In preparing the outline, great care has been taken not to encroach upon the individuality of the teacher, for that is invaluable. Except in the most primary work, the course states only what should be taught; to the individuality of the teacher is left the how to teach the subject. He should remember that he is at liberty to use any or all methods at his command. The only requirement is that he do the work well.



Grammar Grades	Fifth Year...	Reading. Spelling. Writing. Grammar. Arithmetic. Geography. Science. Drawing.
	Sixth Year...	Reading. Spelling. Writing. Grammar. Arithmetic. Physiology. History. Science. Drawing.
	Seventh Year...	Reading. Spelling. Writing. Grammar. Arithmetic. Geography. History. Science. Drawing.
	Eighth Year...	Reading. Spelling. Writing. Grammar. Arithmetic. Geography. History. Science. Drawing.
Higher Course	First Year...	General History. Arithmetic or Algebra. Physiology. Botany and Bookkeeping.
	Second Year...	General History. Algebra. Zoology. Natural Philosophy.

—Adapted from Illinois Course.

## Primary Department.

NOTE.—In this department we will give methods, aids and devices for Primary teachers, such as can be used in the first, second, third and fourth year's work.

### READING—FIRST YEAR.

The first year in school is one of the most important in the child's life. He forms habits which will last through his entire school life. The great and important task is to keep him pleasantly and profitably employed. His books and apparatus should consist of slate, pencil, sponge, ruler, and first reader. The object of the first month's teaching should be to teach the child to recognize at sight about forty written words and to reproduce the same with his pencil. Teach the written word from the very first, and do not print. It is a waste of time. "Printing, as a means of expression, is never used after the first few months of school, while writing is to be the great means of language expression through the entire life of the child, and should be put into his power as soon as possible." I have used the following which are sometimes called normal words in the first month's teaching. These words are selected because they represent objects familiar to the child, and many of the objects themselves can be shown or drawings of them easily made on the board.

#### LIST OF NORMAL WORDS.

box	slate	green
cup	hen	white
saw	egg	black
hat	nest	snow
cow	girl	tree
ax	bird	play
dog	top	see
boy	doll	can
book	red	drum
horse	blue	apple
hand	sled	kite
hog	stove	clock

After teaching three or four name words, introduce a few adjectives, verbs, pronouns, etc., to combine into short sentences, so that the child in a

few days can talk with the pencil. Such words as: the, this, these, is, are, run, my, a, I, you, we, have, has, am, are, etc. With these combinations can be made; such as, a cow can run, I see a box, my hat is black, etc. Place the words on the board and point to them promiscuously, but making a sentence, and let the children recite the sentence after you have pointed to the last word. Drill on these until they not only know the words, but know them at sight. It is of great importance that the first fifty words should be learned thoroughly. When this is done, then the child is ready to take up the first reader, and by writing the first lesson or two beside the same lesson printed he will change from the script lesson to print so easily as to almost surprise the teacher. If you have not a reading chart you can make one. All that is required is a few large sheets of wrapping paper, some colored crayon and a bottle of mucilage. Dip the crayon into the mucilage and write on the paper while it is still damp, and it will not rub off and will last as long as the paper lasts. Of course, get your directors to buy a chart if you can, but do not teach another year without some kind of a chart.

### Elementary Physiology.

FOR THIRD AND FOURTH YEAR CLASSES.

During this month teach the general definitions of anatomy, physiology and hygiene, and also the parts of the body. In studying the divisions of the body use an outline something like the following:

Parts of the Body.	Head.	Skull, Eyes Face, Ears. Forehead, Nose. Temples, Mouth. Cheeks, Chin.
		Chest.
	Trunk.	Abdomen. Backbone.
		Shoulder. Upper arm. Fore-arm. Wrist. Hand-Fingers. Hip. Thigh. Leg. Feet-Toes. Ankle.

Give careful attention to spelling the names and locating the different parts, until it is thoroughly understood. The following outline should be developed in studying the skin:

The Skin.	Parts.	Cutis. Cuticle.
		Hair. Nails. Perspiratory Glands. Sebaceous Glands.
	Uses.	Protection. Removes waste matter. Regulates heat of body. Absorption.
		Care { Bathing. Effect of Alcohol. Inflames. Discolors. Absorbs moisture. Hardens.

Too much emphasis cannot be placed on the importance of bathing to keep the skin in a healthy condition. Because people do not have good bathtubs, etc., is no excuse for not bathing. The poorest can have a tub or bucket and enjoy their bath regularly if they will.

A few queer queries placed on the blackboard for the children to look up in the books and cyclopedias will add much interest to the class.

Something like these might be given:

1. How thick is the skin?
2. Why are scars white?
3. What is an Albino?
4. What causes freckles?
5. Does the hair grow after death?
6. What causes the hair to stand on end?
7. What part of the skin does a snake shed?

#### ANSWERS TO ABOVE.

1. The skin is about one-tenth of an inch thick.—*Smith*.
2. In the freshly-made cells on the lower side of the cuticle, is a pigment, composed of tiny grains. In the varying tint of this coloring matter, lies the difference of hue between the blonde and the brunette, the European and African. Scars are white, because this part of the cuticle is not restored.—*Steele*.
3. Among the negroes, are sometimes found people who have no complexion, i. e., there is no coloring-matter in their skin, hair, or the iris of their eyes. These persons are called Albinos.—*Steele*. In other words an Albino is a white negro.
4. The colors of the different races depend upon the kind and amount of coloring-matter in the pigment cells. The amount of pigment is increased by exposure to heat and light. Those who spend much time in the open air, especially in summer, become tanned and freckled, and when winter comes again, or they remain indoors for a time, the tan and freckles mostly pass away. This is because the light and heat increase the pigment. When this takes place in spots only it causes freckles; when it affects the whole exposed surface, it causes tan.—*Johannot*.

5. Hair grows at the rate of about five to seven inches a year, but it does not grow after death. This appearance is due to the fact that by the shrinking of the skin the part below the surface is caused to project, which is especially noticeable in the beard.—*Steele*.

6. Wherever hair exists tiny muscles are found, interlaced among the fibers of the skin. These, when contracting under the influence of cold or electricity pucker up the skin, and cause the hair to stand on end.—*Steele*.

7. A snake throws off its cuticle entire and at regular intervals.—*Steele*. Get some bright boy to tell how this is done. Have pupils explain how and when we throw off cuticle.

### Composition Outlines.

#### HOW TO USE THEM.

- I. Object.
  1. To suggest ideas.
  2. To assist pupils to arrange their ideas in an orderly manner.
- II. Method.
  1. Have a short conversation about the subject. Ask pupils questions. Tell short stories.
  2. Write the outline on the blackboard and require pupils to write from it on their slates and copy the work neatly on paper.
  3. Cut out the following outlines, paste them on paper and require certain pupils to write from them.

### THE POLAR BEAR.

1. Where found { Iceland.  
Greenland.  
Other countries around North Pole.
2. Description. { Often 12 feet long.  
Covered with long white hair.
3. Character { Fierce.  
Much feared by the people.
4. Habits { Lives near the sea shore.  
Can swim and dive well.  
Feeds upon seal and large fish.  
Will attack flocks of domestic animals.
5. They need a cold climate. When brought to this country they have to be kept very cold.

### CHALK.

1. What is it. { White.  
Sometimes yellow or grayish.
2. Description. { Soft.  
Sometimes hard lumps found.  
Easily broken.
3. Where found. { To write with on blackboard.  
To make mortar or cement.
4. Uses { Hard chalk used for building purposes.  
Made into whitening.

### THE DUCK.

- I. What is it?
- II. Structure.
  1. Head small.
  2. Neck long.
  3. Bill broad and long.
  4. Body shaped like a boat.
  5. Legs short, placed far back on the body.
  5. Feet webbed.
  7. Feathers thick, often very handsome.
- III. Habits.
  1. Walks.
  2. Runs.
  3. Swims.
  4. Flies.
  5. Finds food in the water.
  6. Eats grain.
  7. Lays eggs.
  8. Says quack, quack.
- IV. Use.
  1. Eggs and flesh for food.
  2. Feathers for beds and pillows.—*Selected*

## Grammar Grades.

NOTE.—In this department we will give helpful suggestions, suitable for the fifth, sixth, seventh and eighth grades.

### GRAMMAR.

Elementary text-book in grammar completed.

Note.—The pupils in fifth and six year grammar should be classed together, where it can be conveniently done.

#### FIRST MONTH.

*The Noun*.—Gender, person, number, and case. Parsing. Note carefully the methods of distinguishing the genders.

#### RULES FOR FORMING PLURALS.

1. Nouns whose last sound will unite with *s*.
2. Nouns whose last sound will not unite with *s*.
3. Nouns ending in *y*, preceded by a consonant.
4. Nouns ending in *f* or *fe*.
5. Nouns ending in *o*, preceded by a consonant.
6. Plurals of letters, figures, marks, and signs.

Note exceptions to the above rules.

**Declension.**—Decline nouns in common use, and use their various forms in sentences. Show that figures, marks, phrases, and clauses may be used as nouns.

Remember that parsing consists: (1) In naming the part of speech; (2) in telling its properties; (3) in pointing out its relation to other words; (4) in giving the rule for its construction.—*Course of Study.*

The following outline should be placed neatly upon the board and allowed to remain during the month or until the study is completed.

Nouns.	Classes.	Proper.
		Common
	Properties	Person { First. Second. Third.
		Number { Singular. Plural.
		Gender { Masculine. Feminine. Neuter. Common.
Declension.	Case.	Nominative. Possessive. Objective. Absolute.

When the pupil has completed the study of the noun he should be able to recite both orally and in writing, giving clear-cut definitions of all the words in the above outline. But be sure that they understand the meaning of what they are reciting. They may be able to give all the definitions and not know any of the real meaning of what they are saying. The tendency of some teachers to devote all the time to the mastering of definitions is much too common. The following exercises will be good drill to test the pupils' real knowledge of the subject, and will also train them in language and expression of thought.

- Write five sentences containing proper nouns. (Teacher should see that pupils begin all proper nouns with capitals.)
- Write five sentences containing common nouns.
- Write five sentences containing nouns in the first person. (Give particular attention to the use of the comma in punctuating these sentences. If they learn to use the comma now they will always remember it.)
- Write five sentences containing nouns in the second person.
- Write five sentences containing nouns in the third person.
- Write five sentences containing nouns in the singular number.
- Write five sentences containing nouns in the plural number.
- Write five sentences containing nouns in the masculine gender.
- Write five sentences containing nouns in the feminine gender.
- Write five sentences containing nouns in the masculine gender by personification.
- Write five sentences containing nouns in the common gender.
- Write five sentences containing nouns in the neuter gender.

13. Write five sentences containing nouns in the nominative case as subjects.

14. Write five sentences containing nouns in the nominative case as predicates.

15. Write five sentences containing nouns in the nominative case by apposition.

16. Write five sentences containing nouns in the possessive case.

17. Write five sentences containing nouns in the possessive case by apposition.

18. Write five sentences containing nouns in the objective case after prepositions.

19. Write five sentences containing nouns in the objective case after transitive verbs.

20. Write five sentences containing nouns in the objective case by apposition. (Be careful about the use of the comma in sentences containing nouns in apposition).

#### RULES FOR FORMING THE PLURAL.

- Write twenty nouns that form their plurals by adding *s* to the singular.
- Write in a column ten nouns that end with *s* and in a second column write their plurals.
- Write five nouns that end with *sh* and write their plurals.
- Write five nouns that end with *z* and write their plurals.
- Write five nouns that end with *x* and give their plurals.
- Write five nouns that end with *ch* and give their plurals.
- Make a list of all nouns that you can think of that end with *o* and write their plurals. (Teacher should give pupils a special drill on spelling plurals of nouns ending with *o*.)
- Write ten nouns ending in *y* preceded by a vowel and give their plurals.
- Write ten nouns ending in *y* preceded by a consonant and write their plurals.
- Write all the nouns that you can think of that end in *f* and write their plurals.
- Write five nouns that end in *fe* and give their plurals.
- Write the plurals of the following nouns:

- |          |          |
|----------|----------|
| 1. man   | 6. louse |
| 2. woman | 7. foot  |
| 3. child | 8. tooth |
| 4. ox    | 9. goose |
| 5. mouse |          |

13. Use each of the following words in a sentence that will show that but one is meant:

- |          |             |             |
|----------|-------------|-------------|
| 1. sheep | 5. vermin   | 9. grouse   |
| 2. deer  | 6. pair     | 10. trout   |
| 3. moose | 7. salmon   | 11. herring |
| 4. swine | 8. mackerel | 12. cannon  |

14. Rewrite sentences containing above words, changing so as to mean more than one.

15. Write ten nouns that are used only in the plural form.

16. Use the plural form of the following words in sentences:

- |                   |                       |
|-------------------|-----------------------|
| 1. cup-ful        | 6. mouse-trap         |
| 2. ox-cart        | 7. sister-in-law      |
| 3. man-servant    | 8. knight-templar     |
| 4. spoon-ful      | 9. commander-in-chief |
| 5. brother-in-law | 10. Miss Brown        |

Use the plural of the following letters and signs in sentences:

- |       |                 |
|-------|-----------------|
| 1. p  | 6. *            |
| 2. k  | 7. ?            |
| 3. 9  | 8. t            |
| 4. II | 9. <del>2</del> |
| 5. †  | 10. ¶           |

Perhaps more errors are made in writing the correct form for the possessive case, both singular and plural, than any other part of the language, and I think this is largely because children are not given sufficient practice in writing until the form becomes familiar. A table something like the following will be found very helpful for slate and blackboard drill.

Singular.	Plural.	Poss. Sing.	Poss. Plu.
1. man	men	man's	men's
2. wife	.....	.....	.....
3. ox	.....	.....	.....
4. child	.....	.....	.....
5. box	.....	.....	.....
6. piano	.....	.....	.....
7. church	.....	.....	.....
8. mouse	.....	.....	.....

#### Why Do We Invert the Divisor?

This subject is discussed in nearly every institute, and yet when the examiner asks that question the answers many times show that it is not clear in the mind of the teacher. In several institutes where we have seen attempts to explain the matter it has become thoroughly mixed from the number and variety of the explanations given, and the teachers who did not understand it are left in a worse state of confusion than at the beginning.

The following by a western teacher makes it about as clear as it is possible to be made:

If the child has been properly taught up to the time of the introduction of division of fractions, he will understand the relation that each fraction holds to the unit from which it was derived. If he does not understand this, you will teach it to him in the following or some better way. Draw a line upon the board that is nine inches long; let them think of this line as a unit or 1. Use 1, 2, 3, 4, etc., as divisors, and secure the quotients  $1\frac{1}{2}$ ,  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ , etc. These quotients are readily perceived by the pupils. Use  $\frac{2}{3}$  as a divisor.

Show that  $\frac{2}{3}$  is contained in the unit one time and one-half of another time, or  $1\frac{1}{2}$  times. Use  $\frac{3}{4}$  as a divisor, and show by use of line and other means, that it is contained in 1, 1 and  $\frac{1}{4}$  or  $1\frac{1}{4}$  times. Use other fractional divisors and generalize as follows: A fraction is contained in the unit from which it is derived as many times as is indicated by the fraction inverted. Follow this conclusion with many questions similar to the following:

"How many times is  $\frac{2}{3}$  contained in 1?  $\frac{3}{2}$  represents the division of 1 by what number?"

What fraction is contained in 1  $\frac{2}{3}$  times?

A man divides an acre of land into plots of  $\frac{2}{3}$  of an acre each. How many such plots can he secure?

You say that  $\frac{2}{3}$  is contained in 1 how many times?

*Pupil.*— $\frac{3}{2}$  is contained in 1  $\frac{3}{2}$  times.

Then how many times will it be contained in  $\frac{1}{2}$  of 1.

*Pupil.*— $\frac{1}{2}$  of  $\frac{3}{2}$  times.

And how many times in  $\frac{1}{3}$  of 1.

*Pupil.*— $\frac{3}{2}$  of  $\frac{1}{3}$  times.

What does an inverted fraction show?

*Pupil.*—The number of times that the fraction is contained in 1.

Analyze the following: divide  $\frac{2}{3}$  by  $\frac{3}{4}$ .

Analysis:  $\frac{2}{3}$  is contained in 1  $\frac{3}{2}$  times, and it is contained in  $\frac{3}{4}$  of 1  $\frac{4}{3}$  of  $\frac{3}{2}$  times, or  $1\frac{2}{3}$  times, or  $1\frac{2}{3}$  times, or  $1\frac{2}{3}$  times."

Give many examples, have the analysis written, and you need not fail to make this plain to any class.

#### Seventh and Eighth Year Spelling;

NOTE.—In rural schools and in graded schools of six rooms or less, have but one class in spelling for pupils of the seventh and eighth years. The work given below should be taught in 1894-5, and each second year thereafter, alternating with the work of the eighth year. Remember that the work given in the study of synonyms, derivation of words, and pronunciation, is suggestive rather than exhaustive, and additional work may be given. There should be much practical work in spelling outside of what is given here. This represents the minimum that should be done in any school, and is made definite for each month, and will be the basis of the monthly written review or examination.

Many schools use the history lesson as the source from which to draw words for spelling. Such schools have found the following plan a good one: Number the pupils in the class. Have No. 1 select twenty words from to-morrow's lesson in history and arithmetic, and five review words from the preceding lessons, and write them on the board. Pupils copy, and study, and preserve, learning accents with markings and definitions. In class, spell orally, pronouncing all syllables from the first, and define.

#### FIRST MONTH.

- Define orthography and orthoepy.
- Give synonyms for the following words, and illustrate their use in sentences. Use the dictionary in discriminating shades of thought: *absurd, abundant, adversity, affliction.*
- Study pronunciation and diacritical markings of the following words: *abdomen, acorn, after, again, albumen, almond, alms, aniline, apparatus, area.*
- Select and define a list of words in which *logy* (science of), enters as a part; as, physiology, zoology, geology.—*Course of Study.*

**Pronunciation and Diacritical Markings.**—Much time is often wasted in marking words which everybody can pronounce. Many in the following list are often mispronounced, and they should be carefully studied:

- |                 |               |
|-----------------|---------------|
| 1. advertise    | 31. cowardice |
| 2. again        | 32. coral     |
| 3. aged (part.) | 33. Danish    |
| 4. aged (adj.)  | 34. docile    |
| 5. alkali       | 35. duty      |
| 6. ally         | 36. e'er      |
| 7. almond       | 37. ere       |
| 8. apparatus    | 38. err       |
| 9. apricot      | 39. error     |
| 10. Arab        | 40. exile     |
| 11. archipelago | 41. falcon    |
| 12. area        | 42. fatigue   |
| 13. aye (noun)  | 43. forehead  |
| 14. aye (adv.)  | 44. gaseous   |
| 15. bade        | 45. genuine   |
| 16. balm        | 46. geyser    |
| 17. balmoral    | 47. gondola   |
| 18. banana      | 48. granary   |
| 19. baths       | 49. gratis    |
| 20. bevel       | 50. hearth    |
| 21. bomb        | 51. heroine   |



22. bouquet  
23. bronchitis  
24. calm  
25. cam  
26. canine  
27. carbine  
28. cayenne  
29. chasten  
30. comrade
52. horizon  
53. idea  
54. idle  
55. idol  
56. impious  
57. indict  
58. injury  
59. Italic  
60. juvenile

Some Friday afternoon instead of the spelling match have a pronouncing match.

In studying the words in which logy (science of) enters as a part, have the pupil bring list and arrange them in a table something like the following:

physiology	living beings.
geology	the earth's
biology	life. [structure
astrology	stars.
phytology	plants.
phrenology	the mind.
conchology	shells.
psychology	soul.
necrology	dead.
mineralogy	minerals.
neology	new words.
neurology	nerves.
ornithology	birds.
oryctology	fossils.
osteology	bones.

(This list was handed me by a pupil at Bethalto school.)

Do not stop with the table Use the words in sentences.

### Geography.

During the first month the following subjects are to be studied:

1. Form of the earth.
2. Size of the earth.
3. Motions of the earth.
4. Proofs of rotundity.
5. Proofs of flattening at poles.
6. Define terms used: Sphere, surface, circumference, diameter, axis, poles, equator, meridian, parallel, great circle, small circle, zone, ecliptic, latitude, longitude.
7. Explain fully the change of seasons, the inclination of the earth on its axis, and why the tropics are placed just  $23\frac{1}{2}$  degrees from the equator.
8. Explain the method of describing land in the government land survey.

#### FORM OF THE EARTH.

Teach carefully by means of the globe or ball, (a yarn ball with a needle through the center makes a very convenient globe), the meaning of sphere, spheroid and a blate spheroid.

Many pupils study that the earth is round, and yet when you question them closely they do not believe it, because they see it is flat. To show them that a round object may appear flat, cut a small hole about an inch in diameter, in a piece of card board, hold this over the globe and let the pupils look at the portion visible through the hole. It will look flat.

- Proofs of the Earth's Rotundity.
1. Circumnavigation.
  2. Apparent change in the position of the North Star.
  3. Eclipse of the Moon.
  4. The Horizon.
  5. Appearance of ships at sea.
  6. Plumb lines.
  7. Analogy.

1. Magellan was the first to circumnavigate the globe; Drake, the second. Since then many go around every year. Recall Gen. Grant's tour around the world. Allen and Sachtleben's tour on their bicycles will interest the boys.

Men have traveled around the world, however, only in a belt extending in an east and west direction. This proof is not, therefore, conclusive, for the same thing might be done if the earth were a cylinder. It is a proof that the earth is round east and west.

2. In traveling toward the north pole the north star appears to rise; in traveling toward the south pole, stars unseen before come into view in front while others disappear behind, showing that in these directions also the surface is curved. The two taken together prove that the earth is spherical.

3. An eclipse of the moon is produced by the earth coming between the sun and the moon, and casting its shadow upon the latter. Hundreds of eclipses have been observed, in which the earth has been in many different positions. This shadow is observed to be always circular. As the sphere is the only body which casts a circular shadow in every position, this is an absolute proof that the earth is round. That pupils may clearly understand this proof, it may be necessary to have shadows produced from objects of various shapes in different positions.

4. The horizon, wherever observed, on the surface of the ocean, or on level ground, is circular. This alone is not a proof of the earth's rotundity, as the distance which the eye can see is equal in all directions, and therefore circular; but in clear weather an object on the surface of level ground, or of the water, can be seen just as far with the naked eye as with a powerful telescope. As light moves in straight lines, this shows that the surface "rises up" or curves between distant points.

5. When a ship is coming into port, we see first the topmasts, then the sails, and finally the hull. If the earth were flat, we would see the upper and lower parts at the same instant. As the top part is seen first, the earth must be curved; and since the appearance is the same, no matter from which direction the ship is approaching, we infer that the earth is evenly curved or spherical.

6. A plumb line points to the center of the earth. If two plumb-lines are dropped from high towers, a sufficient distance apart, and the distances are measured between the tops, the centers, and the basis of the lines, it will be seen that the lines are not perfectly parallel, but are nearest together at their bases and farthest apart at the top. The opposite walls of a building, if built perpendicular, are farther apart at the top than at the bottom. This proves that the plumb-lines point to a common center, which could be true only of a circular body.

7. By examination with a telescope all the other planets are seen to be globular. The planets belong to our system. We can reasonably conclude that the conditions which would make any of them round would make all of them so. Hence we may fairly infer that the earth is round.

### METHOD OF DESCRIBING LAND IN THE PUBLIC LAND SURVEY.

The system of survey by which the public lands of the United States are divided and the position of any plot described was adopted in 1786. The original thirteen states, together with Maine, Vermont, Kentucky, Tennessee, and certain parts of Ohio, never were public lands of the United States, and are not included in the surveys. Indian reservations are also omitted, and lands that were owned by individuals or companies before the territory in which they are situated became a part of the United States. The public lands of Texas are the property of that State, and have a system of their own.

#### DIVISION OF LAND INTO TOWNSHIPS.

The public lands or the United States are divided into townships, and these are subdivided into sections. The plan of division and subdivision is as follows:

Through some convenient point in the territory to be surveyed a meridian, or true north and south line, is care-

fully run to the limits of the tract. This line is called the Principal Meridian. At the end of every mile and half-mile, and at the end of every six miles, stakes, monuments, or other marks are set. Through a convenient point on the Principal Meridian a second line is run east and west, and divided and staked in the same way. The second line is called the Base Line. Through each six-mile point on the Base Line another meridian is run, and through each six-mile point on the Principal Meridian a line is run parallel to the Base Line. These two sets of lines divide the tract into squares which are six miles on a side, and contain thirty-six square miles. These squares are called townships. Other meridians and parallels from the mile points are now run across the townships, which are thus divided into thirty-six squares, called sections, each containing one square mile. By other similar lines the sections are subdivided into quarters, and sometimes into eighths and sixteenths.

the method by which the sections are numbered. In every township in Michigan and Wisconsin section 16, and in the other states section 16 and 36, are

DIAGRAM II.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	Eton 15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

set apart for the support of public schools, the money obtained from their sale or lease being the chief basis of the school fund.

If the sections were perfect squares

DIAGRAM I.

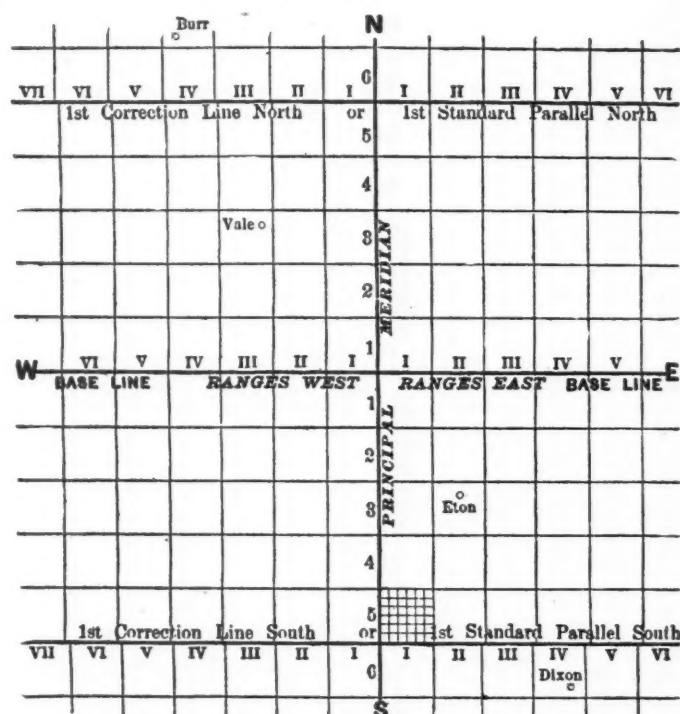


Diagram I illustrates the division into townships, and the method of describing the location of any particular township. The line of townships between two six-mile meridians is called a Range. The number of a township shows its distance north or south of the Base Line. Its range shows its distance east or west of the Principal Meridian. Thus Burr is in Township 7 N., Range IV., W.; Dixon in Township 6 S., Range IV., E., etc.

Since the meridians are not parallel to each other because they would all meet at the poles, it follows that the townships, though said to be square, are not exactly so, but are longer on their southern boundaries than on their northern ones. If this were not corrected, the successive townships in any range would be larger and larger south of the Base Line, and smaller and smaller north of it. To prevent this as far as practicable, a parallel lying at a convenient distance from the Base Line, and forming the northern boundary of a line of townships, is taken as a new base line from which to run the subordinate meridians. This new base line is called a Correction Line, or Standard Parallel (see Diagram D). In Michigan a correction line is taken at every tenth township along the range. In other states their frequency varies. They are much more frequent in the newer states and territories.

Diagram II shows a township divided into thirty-six squares or sections, and

each would contain 640 acres, or one square mile. But since their forms and sizes must vary for the same reasons that those of the townships vary, the sections in the northern part of a township are somewhat smaller than those in the southern part. Errors in making the original survey frequently modify this result considerably.

Sections are divided by lines drawn parallel to their sides into half sections, quarter sections, and sometimes into eighths and sixteenths.

DIAGRAM III.—SUBDIVISIONS OF SECTIONS.

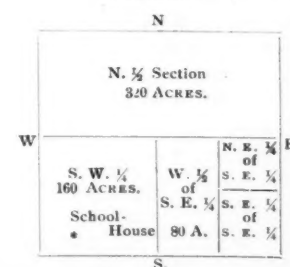


Diagram III. shows the divisions and subdivisions of a section and the method of describing them. Thus by combining the diagrams, the school-house of Eton is in the S. W. 1/4, Section 10, Township 3 South, Range II East.—From Harper's School Geography.

## American Journal of Education.

### BUSINESS DEPARTMENT.

#### Business Notes.

WE are pushing the JOURNAL, in all the institutes this summer, and subscriptions are coming in rapidly. Many are complimenting us on the improved appearance of the paper. Even the advertisements have an artistic appearance, and add to the beauty of our paper.

"If you love me tell me so." Well, that is just what some of our subscribers have been doing. Hear this from a prominent city superintendent, where they enroll 5,000 pupils: "The AMERICAN JOURNAL OF EDUCATION comes to me to-day filled with good things—many, excellent! Go on with the good work; strength and fire increase with your years, and freshness and vigor go hand in hand." That almost made us blush, but somehow we rather like it. *Strength, freshness and vigor*, that is what we are putting in every number.

Another County Commissioner writes: "I like the *tone* of the AMERICAN JOURNAL OF EDUCATION. You are doing a great work for our State. I recommend it to all our teachers."

*Tone*, well that sounds musical, and we will endeavor to make it *pure tone* only.

Did you ever think what an example of perseverance a postage stamp is? How it sticks on until it gets there? Well, that is just what we are doing, and we are going to stick right to business and increase our subscription list many thousand before the year closes, but we want your help; can't you send us in at least one new subscriber? Turn over and read again that advertisement entitled, "*A Pretty Surprise*." If you get us one new subscriber we will give you that copy of *Evangeline*. It is a beauty and is just as the advertisement says. We have sent out a great many this month, but we want to send *you* one.

Perhaps you already have "*Evangeline*," then if you get us one new subscriber and prefer it, we will give you a copy of that grand book for teachers entitled, "*Snap Shots by an Old Maid*." Turn over to the page and read that advertisement. It is not offered there as a premium, but we want *you* to work for us, and we make you the offer here, for this is

BUSINESS.

#### Deafness Cannot be Cured

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give one hundred dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars, free.

F. J. CHENEY & CO.,  
Sold by Druggists, 75c. Toledo, O.

#### Cool Resorts of the Rockies.

MANY thousand feet above the level of the sea, ensconced in the heart of the Rockies, and away from the burning glare of the the mid-day sun, the health and pleasure resorts of Colorado and Utah offer manifold inducements to a suffering populace. Tourists rates via the Missouri Pacific Railway—Colorado Short Line—to Pueblo, Colorado Springs, Manitou, Denver, Georgetown, Boulder, Salt Lake City and Ogden are extremely low this season, and the excellent through service offered by this popular route from St. Louis and Kansas City to the Rocky Mountain Resorts, places them within one or two days time from the Central and Middle States. For full particulars and copy of resort pamphlets mailed free, address

H. C. TOWNSEND,

General Passenger and Ticket Agent,  
Jy3t. St. Louis.

#### SOLUTION TO PROBLEM IN JOURNAL OF JULY.

In showing that  $8 \times 8$  is (not) equal to  $5 \times 13$ , the following is a simple solution that can be readily understood by anyone not having a knowledge of trigonometry.

In cutting from E to D the diagonal crosses two squares in going a distance of five squares; and in cutting from B to C it crosses three squares in going a distance of eight squares, whereas, in order to cut across in the same proportion as in the first instance, it would cut across the three squares in going a distance of seven and one-half squares. This shows that the angle that the diagonal makes with the side is slightly greater from E to D than it is from B to C.

When the pieces are cut and laid to form the parallelogram whose sides are  $5 \times 13$ , the two diagonals coming together seem to form one and the same straight line, but there is a very slight angle where they join, and if the square be cut on a large scale and with extreme accuracy, the parts would not fit, but would show an open space between the diagonals in the form of an oblique-angled parallelogram whose area would equal one of the 64 squares.

WE have received copies of the beautifully engraved pictures "The Presidents of the United States" and "The Ladies of the White House," published by the Puritan Publishing Co. They ought to adorn the walls of every school room. Read their advertisement.

THE South and East made a splendid showing at Asbury Park. The West was knocked out by the strike.

#### RUDY'S PILE SUPPOSITORY

is guaranteed to cure Piles and Constipation or money refunded. 50 cents per box. Send two stamps for circular and Free Samples to MARTIN RUDY, Registered Pharmacist, Lancaster, Pa. NO POSTALS ANSWERED. For sale by all first-class druggists everywhere MEYER BROS. DAUG CO., Wholesale Agents, St. Louis, Mo.

#### LITERARY.

THE publication of Walker's Concise Concordance, which the Congregational Sunday School and Publishing Society are to issue Sept. 1st, marks an important period in the history of Aids to Bible Study, and the public will look for the work with a great deal of interest. The only handy Concordance in use to-day, Cruden's, was issued one hundred and fifty years ago, and though full of errors and omissions has practically held the field, as there was nothing else to be had. The new Concordance contains fifty thousand more references than "Cruden's Complete," and for the Bible student will prove a perfect "text finder." It is rigidly alphabetical in its arrangement; all words, including proper names and appellatives, are included in the one list. The book represents the life work of its author, Rev. J. B. R. Walker, and shows everywhere the marks of scholarship, skill and good judgment. The clear, distinct and sightly pages, with the caption words in full faced letters, figures referring to chapters in full faced and the verses in light faced type, avoid confusion to the reader, and present a marked and favorable contrast to most works of this sort.

The Concordance is now in the printers' hands, and when issued will contain about 950 pages. It will be printed on a fine quality of thin paper, and will be neatly and strongly bound. The price will be only \$2.00. The preparation of such a work as this involves an unusually large outlay of money, to say nothing of the labor and scholarship of a life-time which was freely given by the editor without expectation of adequate return. The publishers of the work cannot afford to issue it at the low price named except in the expectation of a general demand which will warrant the printing of large editions. The indications are that these expectations will be realized. Address,

GEORGE P. SMITH, Agent,  
Boston, Mass.

ONE of the most readable books recently published for teachers is "Snap Shots With An Old Maid's Kodak." It is a splendid little mirror into which every teacher should look. Pleasant and helpful reflections will come to all who give it even a cursory examination. It is full of wit and wisdom. The author is the teacher's friend and makes it apparent that she is honestly and earnestly endeavoring to encourage and help her readers. She criticises faults and commends virtues in such a way as to leave no doubt as to the sincerity of her purpose to do good. "Snap Shots" is written in dialect, contains 116 pages and has chapters on "punctuality," "accuracy," "obedience," "normal training," "patriotism," "nature studies," etc., etc. It is not easily described. Get it and read it.

MARION CRAWFORD will have a paper in the August number of *The Century* on "Washington as a Spectacle." With all of his experiences in the capitals of the old world, he thinks Washington has many charms and attractions that they lack. Mr. Crawford reads a lesson

#### IMPROVED SERVICE

BETWEEN

## St. Louis AND Memphis Cairo Short Line

AND

## Illinois Central R.R.,

Have inaugurated a double daily service between the two cities as per the following schedules.

#### SOUTH BOUND.

Lv. St. Louis ..... 7:40 a. m. 7:30 p. m.  
Lv. Cairo ..... 12:45 p. m. 12:50 a. m.  
Lv. Fulton ..... 2:45 p. m. 3:00 a. m.  
Ar. Memphis ..... 7:20 p. m. 7:55 a. m.

#### NORTH BOUND.

Ar. St. Louis ..... 7:30 a. m. 6:45 p. m.  
Lv. Cairo ..... 2:05 a. m. 1:45 p. m.  
Lv. Fulton ..... 12:10 a. m. 11:55 a. m.  
Lv. Memphis ..... 7:25 p. m. 7:00 a. m.

Through Coaches, New Vestibuled Sleepers lighted by gas of latest design. No ferry transfers, Shortest, Quickest, and only route running two daily trains every day in the year between St. Louis and Memphis, also two daily trains between St. Louis and New Orleans in 24 Hours, 12 Hours ahead of all other lines. Ticket office, 217 North Fourth Street and Union Depot, St. Louis, Mo.

to the American Parisian and the British New Yorker who continually decry the city and its society. The illustrations to the article are by Andre Castaigne.

WHAT is beauty? "Question of a Blind Man!" replied Aristotle. But Mrs. Sherwood says that it is "dynamite" in her article which opens the interesting pages of the July *Cosmopolitan*. Beauty is always a fascinating subject, and Mrs. Sherwood's discussion is an especially interesting one. The *Cosmopolitan* printed, for the six months embraced in Volume xvi, 1,419,000 copies, an entirely unapproached record, and has doubled its already large plant of presses and binding machinery. The walls of the magazine's new home are rapidly rising at Irvington-on-the-Hudson. Artistically designed by McKim, Mead & White, the new building, with its eight great porticos, will be 279 feet long by 76 feet wide, and one of the most perfectly lighted buildings in the world, having 160 large windows, each nearly double the size of the ordinary window opening.

#### Resolution.

The following resolution was unanimously adopted at the Montgomery County Institute, held at Wellsville, Mo.:

RESOLVED, That we endorse THE AMERICAN JOURNAL OF EDUCATION and Missouri School Journal, and recommend them to all school teachers.

#### Southern Illinois Teachers' Association.

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EDUCATION NUMBER.

THE INDEPENDENT has a way of taking up, the first issue of every month, some important subject and treating it exhaustively. This course, which we have followed for the past few years, has won for us the approbation of our readers and the congratulations of our contemporaries. In pursuance of this plan the fifth yearly EDUCATION NUMBER of THE INDEPENDENT appeared August 23. Public, we hope and believe, of greater value than any which have preceded it. Among the contributors are the following:

DR. WM. T. HARRIS, United States Commissioner of Education, "The Imitative Faculty in Education."

PRES. SETH LOW, Columbia College, "The City University."

SELIM H. PEABODY, Chief of Department of Liberal Arts, World's Columbian Exposition, "The Educational Exhibit at the World's Columbian Exposition."

LUCY WHEELLOCK, Chauncey Hall School, Boston, Mass., "From the Kindergarten to the Primary School."

PROF. B. A. HINSDALE, University of Michigan, "Formal Education."

PAUL TYNER, University of Wisconsin, "Household Science in the Higher Education."

W. F. VROOM, Instructor in Manual Training, Department of Pedagogy, Columbia College, New York, "Manual Training and Morality."

DR. JAMES C. MACKENZIE, Headmaster Lawrenceville School, "The Course for Academics and High Schools."

A. TOLMAN SMITH, United States Bureau of Education, "University Movements in France."

PROF. EDGAR W. WORK, Wooster University, "Education without God."

PRES. C. F. THWING, Western Reserve University, "The College Opportunity."

DR. E. M. HARTWELL, Director of Physical Training in the Boston Public Schools, "The Death Rates Among Children in the Public Schools."

MINTON STEVENS, "The National Educational Association."

—:—

In addition to the above special articles relating to education, the regular departments of the paper will be as full as usual.

The EDUCATION NUMBER of THE INDEPENDENT has always had, and will undoubtedly have this year, a very extended circulation among teachers, educators and other persons interested in educational work. The demand continues for many months after its appearance.

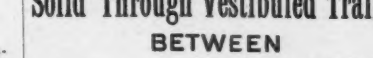
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